FEASIBILITY REPORT

SOUTHEAST AREA STREET RECONSTRUCTION

CITY OF BLAINE, ANOKA COUNTY, MINNESOTA

NOVEMBER 18, 20022

Prepared for:
City of Blaine
10801 Town Square Drive NE
Blaine, MN 55449

CITY PROJECT NO. 23-08
WSB PROJECT NO. 021236-000

wsb

FEASIBILITY REPORT

SOUTHEAST AREA STREET RECONSTRUCTION

CITY PROJECT NO. 23-08

FOR THE CITY OF BLAINE, MINNESOTA

NOVEMBER 18, 2022

Prepared By:

CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota.

Nicholas E. Hentges, PE

Date: November 18, 2022 License No.: 44620

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The proposed project includes the reconstruction of several streets, within four designated areas, in the general southeast area within the City of Blaine. The specific areas and associated streets to be reconstructed are as follows:

Area 1:

- 97th Lane from Austin Street to Lexington Avenue
- 98th Avenue from Austin Street to Cord Street
- 98th Lane from Austin Street to Cord Street
- 99th Avenue from Austin Street to Lexington Avenue
- Austin Street from Edgewood Road to 97th Lane
- Austin Street from 98th Avenue to Lexington Avenue
- Cord Street from 98th Avenue to Austin Street
- Edgewood Road cul-de-sac (4023-4083)
- Edgewood Road cul-de-sac (4103-4163)

Area 2:

- West 35W Service Drive from West 35W Service Drive to cul-de-sac

Area 3:

- Edison Street from 85th Avenue to cul-de-sac

Area 4:

- 89th Lane from Yancy Street to 90th Lane
- 89th Court from 90th Lane to cul-de-sac
- 90th Lane from Zumbrota Street to Rice Creek Parkway
- Bataan Street from 90th Lane to 91st Avenue
- Yancy Street from Rice Creek Parkway to 89th Lane
- Zumbrota Street from 89th Lane to 91st Avenue
- Bataan Court from 89th Lane to cul-de-sac
- Zumbrota Circle from Zumbrota Street to cul-de-sac

Area 1 is proposed to be reconstructed with curb and gutter replacement, full depth bituminous pavement reclamation, grading of the base material, and bituminous paving. Area 2 is proposed to be a full depth pavement reclamation, grading of the base material, and bituminous paving. Areas 3 & 4 are proposed to be reconstructed with spot curb and gutter replacement, full depth bituminous pavement reclamation, grading of the base material, and bituminous paving. The subgrade of these areas will not be exposed. The scope of storm sewer improvements is limited to adding inlets at low points where there is currently limited inlet capacity and the replacement of block structures, back pitched pipes, inlet and manhole castings. Water improvements include replacement of select gate valves, select curb stops, and adjustment of other surface features. Sanitary sewer improvements are limited to replacement of manhole castings.

The total estimated cost of improvements is $5,688,828 with $1,456,257 proposed to be assessed over a 15-year period. The remaining project cost is proposed to be funded with $3,943,503 from City Pavement Management Plan funds, and $289,068 from City Public Utility Funds.

The proposed project is necessary, cost-effective, and feasible and will result in a benefit to the properties proposed to be assessed.

1 PROJECT HISTORY

The Blaine City Council initiated this project and ordered the preparation of a feasibility report on August 15, 2022. Under Motion 22-143 the City Council authorized the Mayor and City Manager to enter into a Contract with WSB for Professional Engineering services to complete the work.

This report is based on field observations, record drawing information, 2020 aerial photography, and 2022 topographic survey.

2 PROJECT AREA CHARACTERISTICS

The general project area includes the following specific areas and streets:

Area 1:

- 97th Lane from Austin Street to Lexington Avenue
- 98th Avenue from Austin Street to Cord Street
- 98th Lane from Austin Street to Cord Street
- 99th Avenue from Austin Street to Lexington Avenue
- Austin Street from Edgewood Road to 97th Lane
- Austin Street from 98th Avenue to Lexington Avenue
- Cord Street from 98th Avenue to Austin Street
- Edgewood Road cul-de-sac (4023-4083)
- Edgewood Road cul-de-sac (4103-4163)

Area 2:

- West 35W Service Drive from West 35W Service Drive to cul-de-sac

Area 3:

- Edison Street from 85th Avenue to cul-de-sac

Area 4:

- 89th Lane from Yancy Street to 90th Lane
- 89th Court from 90th Lane to cul-de-sac
- 90th Lane from Zumbrota Street to Rice Creek Parkway
- Bataan Street from 90th Lane to 91st Avenue
- Yancy Street from Rice Creek Parkway to 89th Lane
- Zumbrota Street from 89th Lane to 91st Avenue
- Bataan Court from 89th Lane to cul-de-sac
- Zumbrota Circle from Zumbrota Street to cul-de-sac

All of the streets in areas 1, 3, and 4 that are a part of the Southeast Street Reconstruction project are urban sections with existing curb and gutter. Area 2, the West 35W Service Drive, is a rural section street. The pavement on all streets within the 4 project sub-areas has reached the point of failure with significant alligator, block, transverse, and longitudinal cracking, as well as surface stripping, and has failed to the point where an overlay is not feasible.

The Anoka County Soil Survey indicates that the predominant soil types in the project area are Hydraulic Soils Group SoA, Iw, ZmA, and ZmB. This project is not anticipating groundwater to be present in the excavations at the assumed depths of the proposed storm sewer. If groundwater is encountered during watermain improvement construction, dewatering will be required. Deeper excavations below the groundwater table, in sandy soils, will likely require a sand point dewatering system.

The project area is contained wholly in the Rice Creek Watershed District. No portion of this project will impact wetlands as identified on the City's wetland inventory map.

See Appendix A, Exhibit 1 for Project Location Map.

2.1 Road History

The following streets were constructed in 1980: **Austin Street** from Edgewood Road to 97th Lane; **97th Lane** from Austin Street to Lexington Avenue; **Edgewood Road cul-de-sac** (4023-4083); **Edgewood Road cul-de-sac** (4103-4163); **Austin Street** from 98th Avenue to 99th Avenue; **Cord Street** from 99th Avenue to Austin Street; **99th Avenue** from Austin Street to Lexington Avenue. These streets were constructed with a pavement section consisting of approximately 2-inches of bituminous over 4-inches of aggregate base with surmountable curb. The above streets received a 1.5-inch mill and bituminous overlay in 2000.

The following streets were constructed in 1982: **98th Avenue** from Austin Street to Cord Street; **98th Lane** from Austin Street to Cord Street; **Cord Street** from 98th Avenue to 99th Avenue; **Austin Street** from 99th Avenue to Lexington Avenue. These streets were constructed with a pavement section consisting of approximately 2-inches of bituminous over 4" of aggregate base with surmountable curb. The above streets received a 1.5-inch mill and bituminous overlay in 2000.

The West 35W Service Drive was constructed in the late 1980s. The current pavement section consists of approximately 5-inches of bituminous over 5-inches of recycled bituminous material, with some areas containing 6-inches of aggregate base below the recycled material. Construction records for this roadway are not available to determine the date of original construction or the dates of subsequent maintenance.

Edison Street was constructed in 1999 with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with B618 curb and gutter. No pavement rehabilitation has been performed to date on Edison Street.

The following streets were constructed in 1997: **Zumbrota Street** from 90th Lane to 91st Avenue; **Bataan Street** from 90th Lane to 91st Avenue; **90th Lane** from Zumbrota Street to Bataan Street. These streets were constructed with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with D312 curb and gutter. No pavement rehabilitation has been performed to date on the above streets.

The following streets were constructed in 1999: **90th Lane** from Bataan Street to Rice Creek Parkway; **89th Court**; **89th Lane** from Yancy Street to 90th Lane; **Yancy Street** from Rice Creek Parkway to 89th Lane; **Zumbrota Street** from 89th Lane to 90th Lane; **Bataan Court**. These streets were constructed with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with D312 curb and gutter. No pavement rehabilitation has been performed to date on the above streets.

Zumbrota Circle was constructed in 2002 with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with D312 curb and gutter. No pavement rehabilitation has been performed to date on Zumbrota Circle.

2.2 Pavement Investigation

WSB completed a pavement investigation at forty-nine (49) coring locations throughout the project areas on September 19, 2022. The results of this investigation can be found in the Pavement Design Report in Appendix D. The investigation found that for areas 1, 3, and 4 bituminous depths ranged from 2.5-inches to 5-inches over 3-inches to 8-inches of aggregate

base consisting of sand with some gravel. For area 2 the bituminous depth was found to be 5-inches, consisting of multiple pavement layers. Area 2 also contained 1-inch to 11- inches of recycled bituminous (FDR material) as well as 0-inches to 6-inches of aggregate base consisting of sand with some gravel. Laboratory testing was completed on samples of the aggregate base material and determined that some areas passed the MnDOT 3138 – Class 5 gradation requirements and some failed due to too many fines in the samples.

2.3 Existing Conditions Photos

The following photos were taken during a site inspection on September 12, 2022 and are representative of conditions of all streets included with this project.

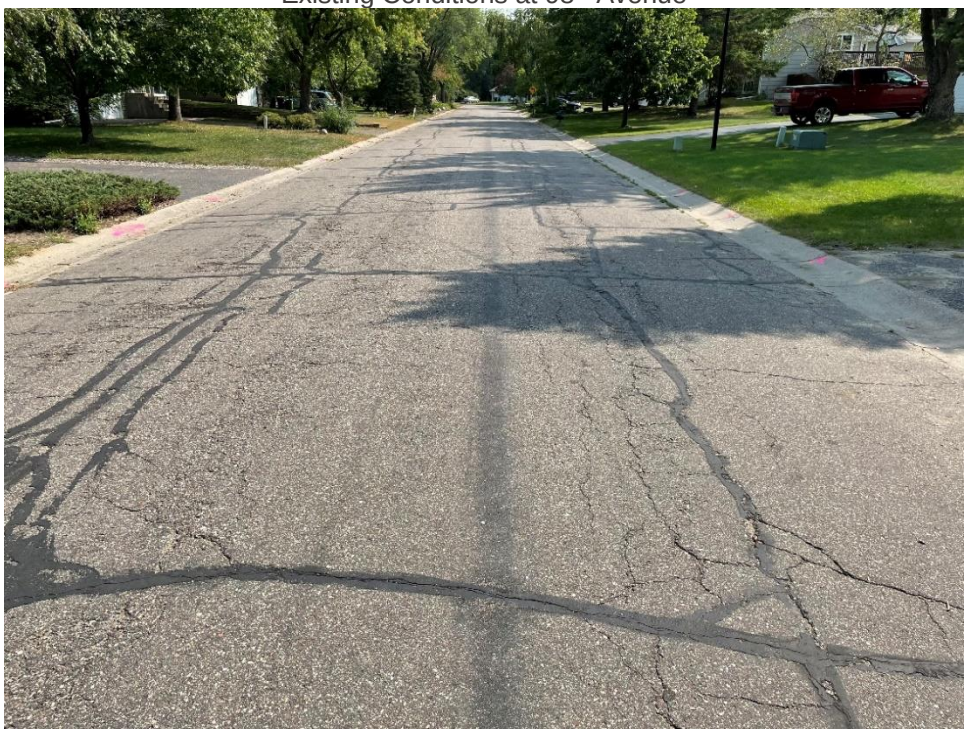
Existing Conditions on Austin Street

Existing Conditions on Cord Street

Existing Conditions on 99th Avenue

Existing Conditions on 98th Lane

Existing Conditions at 98th Avenue



Existing Conditions on 97th Lane at Austin Street

Existing Conditions on West 35W Service Drive

Existing Conditions on Edison Street

Existing Conditions on 89th Lane near Zumbrota Street

Existing Conditions on 90th Lane near Bataan Street

3 PROPOSED IMPROVEMENTS

The proposed improvements will include pavement replacement, spot curb and gutter replacement, sidewalk and pedestrian ramp improvements to make them ADA compliant, adjustment of gate valves, adjustment of manholes, adjustment of catch basins, and replacement of storm sewer and sanitary sewer castings. The improvements are necessary, cost-effective, and feasible. Each improvement is further described as follows:

3.1 Street Construction

The street typical section will be reconstructed to conform with City standards for reconstruction including 3-1/2-inches of bituminous pavement over 4-inches of Aggregate Base on a compacted subgrade. The existing curb and gutter that is to be replaced will be replaced with either D312 concrete curb and gutter or B618 curb and gutter to match the curb and gutter that exists on each street. Area 1 will be reconstructed with B418 curb and gutter to replace the existing surmountable curb and gutter.

The West 35W Service Drive will be reconstructed to match the existing roadway width. Also, this roadway currently does not contain curb and gutter and therefore no new curb and gutter will be constructed with this project.

As a part of the City's Emerald Ash Borer program all Ash trees within the right of way will be removed with this project.

See Appendix A, Exhibit 2 for the proposed typical section.

It is not anticipated that additional right-of-way will be needed for the project.

3.2 Sanitary Sewer

Public Works and Engineering staff have reviewed the existing sanitary sewer within the project area. This review has determined that the scope of sanitary sewer improvements is limited to the replacement of existing manhole castings and rings.

3.3 Water Main

Public Works and Engineering staff have reviewed the water main installation dates and water main break data in the project area and concur that the existing ductile iron water main pipe was installed just prior to when the roadways were first constructed have no issues indicating the need for replacement or repair.

All existing gate valve boxes located within the existing street section, that are not replaced, will be adjusted. The City of Blaine Public Works has inspected all gate valves on the project and identified 21 gate valves which need replacement due to operational issues.

It is assumed that no curb stops require replacement. Curb stop boxes impacted by driveway reconstruction will be adjusted to the finished grade.

3.4 Storm Sewer and Stormwater Management

The scope of storm sewer improvements is limited to the replacement of block structures, existing catch basin and manhole castings, reconstructing back pitched pipes and adding catch basins at some of the low points to reduce the spread in the roadways. The full project area is located within the Rice Creek Watershed District (RCWD). A permit application will be required. Since the project will not expose underlying soils beneath the aggregate base RCWD stormwater management and erosion control rules are not triggered. Since the roadways will be put back to

the same footprint and overall drainage patterns remain unchanged, proposed rates will match existing. Storm sewer in Areas 1,3 and 4 are shown to discharge to ponds for treatment prior to outing to adjacent natural resources including judicial ditches and wetlands. Area 2 will remain a rural roadway section without curb and gutter which will receive treatment in adjacent development BMPs as it does currently.

The Centennial Green Park area was analyzed as part of the City of Blaine Volume Reduction and Water Quality Study completed by WSB in 2021. The area was determined to have a low potential project benefit since there was a low volume reduction potential and since the existing pond already provides water quality benefits. The pond outlets to the main trunk of the Anoka County Ditch 53-62 which drains southeast into Circle Pines. The other project areas were not identified as potential project locations analyzed as part of the City of Blaine Volume Reduction and Water Quality Study.

No storm sewer improvements have been performed to date in the project area.

4 IMPACT OF PROPOSED IMPROVEMENTS

The proposed street improvements will not create any new maintenance issues for the Public Works staff. The City will work with the affected property owners and the Contractor to resolve any situation that may arise during construction.

All streets will remain open to local traffic during construction with short term traffic delays expected. Construction dust, noise, and erosion will occur. Efforts to minimize these impacts include the restriction of work hours and dust and erosion control measures included in the project. Any disruptions that occur to existing yards, sprinkler systems, and driveways will be restored.

5 SUMMARY OF ESTIMATED COSTS AND FUNDING

Project No.: 23-08
Description: **Southeast Area Street Reconstruction**

Cost Item	Percent	Amount
Construction Costs		
Assessable Street Construction		$ 3,303,761.07
Non-Assessable Street Construction		$ 536,356.70
Watermain Construction		$ 147,339.50
Sanitary Sewer Construction		$ 75,020.00
Storm Sewer Construction		$ 313,544.00
Total Construction Costs		$ 4,376,021.27
Administrative Costs		
Engineering	18%	$ 787,683.83
Assessment	1%	$ 43,760.21
Legal	1%	$ 43,760.21
Administration	5%	$ 218,801.06
Capitalized Interest	4%	$ 175,040.85
Bonding	1%	$ 43,706.21
Total Administrative Costs	**30%**	$ 1,312,806.38
Total Estimated Project Costs:		$ 5,688,827.64

Temporary Funding Source: City Internal Funds

Permanent Funding Source: Assessments, Pavement Management Program (PMP) Funds, and Public Utility Funds

Funding

Total Generation from Assessments:	$ 1,456,256.80
Total Paid from Public Sanitary Sewer Funds:	$ 97,526.00
Total Paid from Public Water Utility Funds:	$ 191,541.35
Total Paid from PMP Funds:	$ 3,943,503.49

6 ASSESSMENT METHODOLOGY

It is proposed that the project be assessed over 15 years in accordance with the City Assessment Policy. It is proposed to assess this project using the unit method for the residential properties (single unit and high density) in Areas 1, 3, and 4 and the linear foot method for the commercial/industrial properties located in Area 2. Proposed assessments are based on 35% of the entire cost of the improved street section for residential properties and 50% of the entire cost of the improved street section for commercial/industrial/high density residential properties, and do not include costs for water main construction, sanitary sewer construction, residential driveway construction, sidewalk construction, pedestrian ramp construction, irrigation replacement, and tree removal and replacement.

See Appendix C, Exhibit 1 for the parcels proposed to be assessed and Exhibit 2 for the proposed assessment rolls.

7 FINANCE

The proposed project will temporarily be financed by the City. Permanent funding will be provided by Pavement Management Program Funds, City Water and Sewer Utility Funds, and the costs assessed to the benefiting parcels in accordance with the City Assessment Policy and Minnesota Statutes Chapter 429, Special Assessment Laws.

7.1 Finance Director Statement

With reference to this Feasibility Report for Improvement Project 23-08 as prepared by WSB dated November 18, 2022, I find the following:

A. The project will be temporarily funded through existing City internal funds whereupon permanent financing will be obtained through the Pavement Management Program Funds, Public Utility Funds, and Assessments.

B. Sufficient monies are currently available from the City's Internal Fund to temporarily fund the special assessment portion of this project. It is estimated that $1,456,256.80 will be assessed.

C. Sufficient monies are currently available from the City's Pavement Management Program Fund to pay for the proposed street improvements at an estimated cost of $3,943,503.49.

D. Sufficient monies are currently available from the City's Public Utility Funds to pay for proposed utility improvements and are estimated cost of $289,067.35.

Joseph Huss
Finance Director/Assistant City Manager

8 PROJECT SCHEDULE

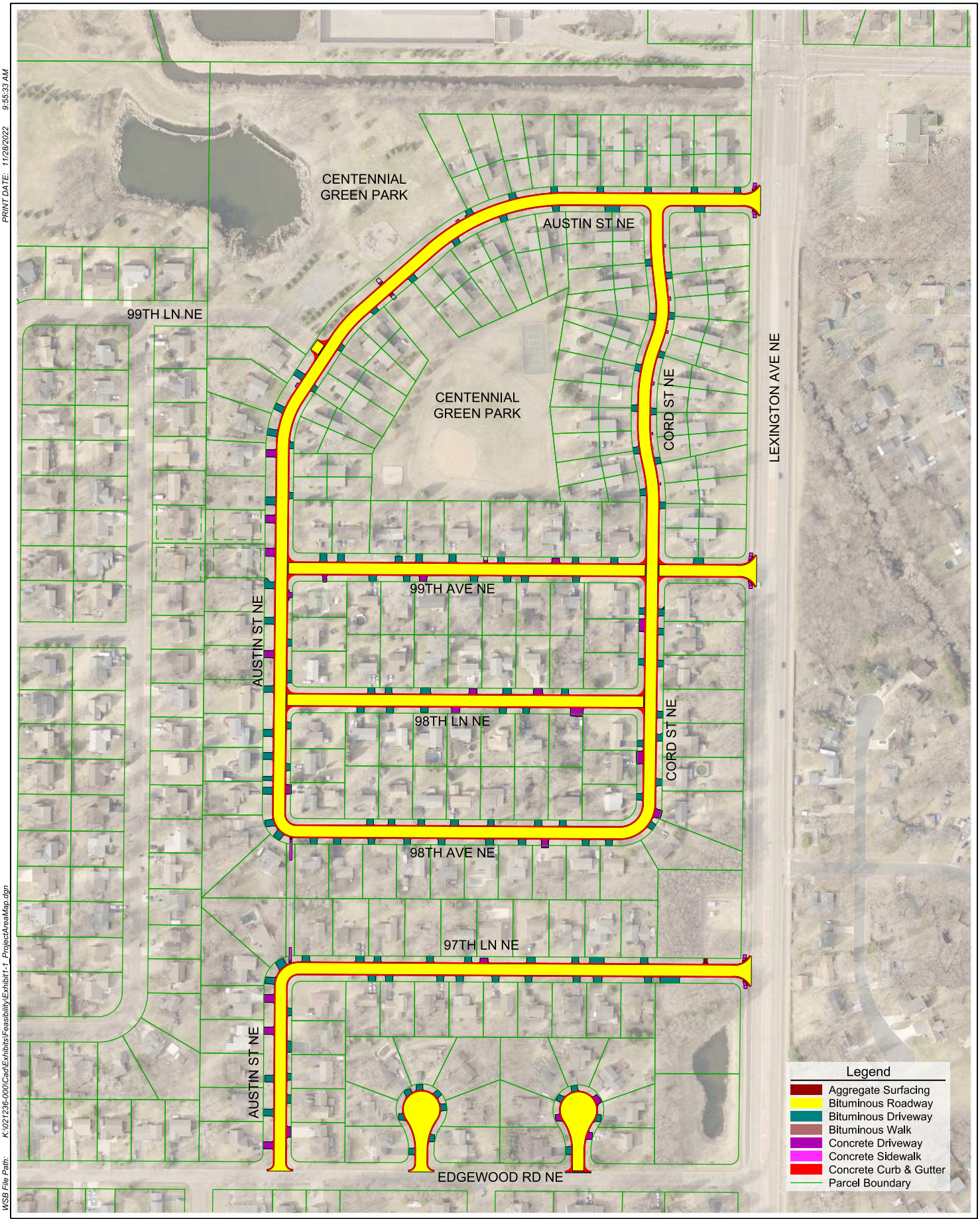
November 18, 2022	Receive Feasibility Report Order Public Hearing
December 14, 2022	Public Information Meeting
December 19, 2022	Hold Public Hearing Order Improvements and Order Preparation of Plans and Specifications
March 27, 2023	Approve Plans and Specifications Order Advertisement for Bids
April 18, 2023	Open Bids
May 1, 2023	Award Contract
May – October 2023	Construct Improvements
February 2024	Assess Project
May 2024	First assessment payment due with real estate taxes.

9 FEASIBILITY AND RECOMMENDATION

The project as proposed is necessary, technically and financially feasible, cost effective, and will result in a benefit to the properties proposed to be assessed. It is recommended that the Council accept this report, hold the public hearing, and order the improvements.

APPENDIX A

Exhibit 1: Project Location Map
Exhibit 2: Typical Sections
Exhibit 3: Storm Sewer Design



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BlaineMN.gov

Exhibit 1: Area 1 Project Area Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

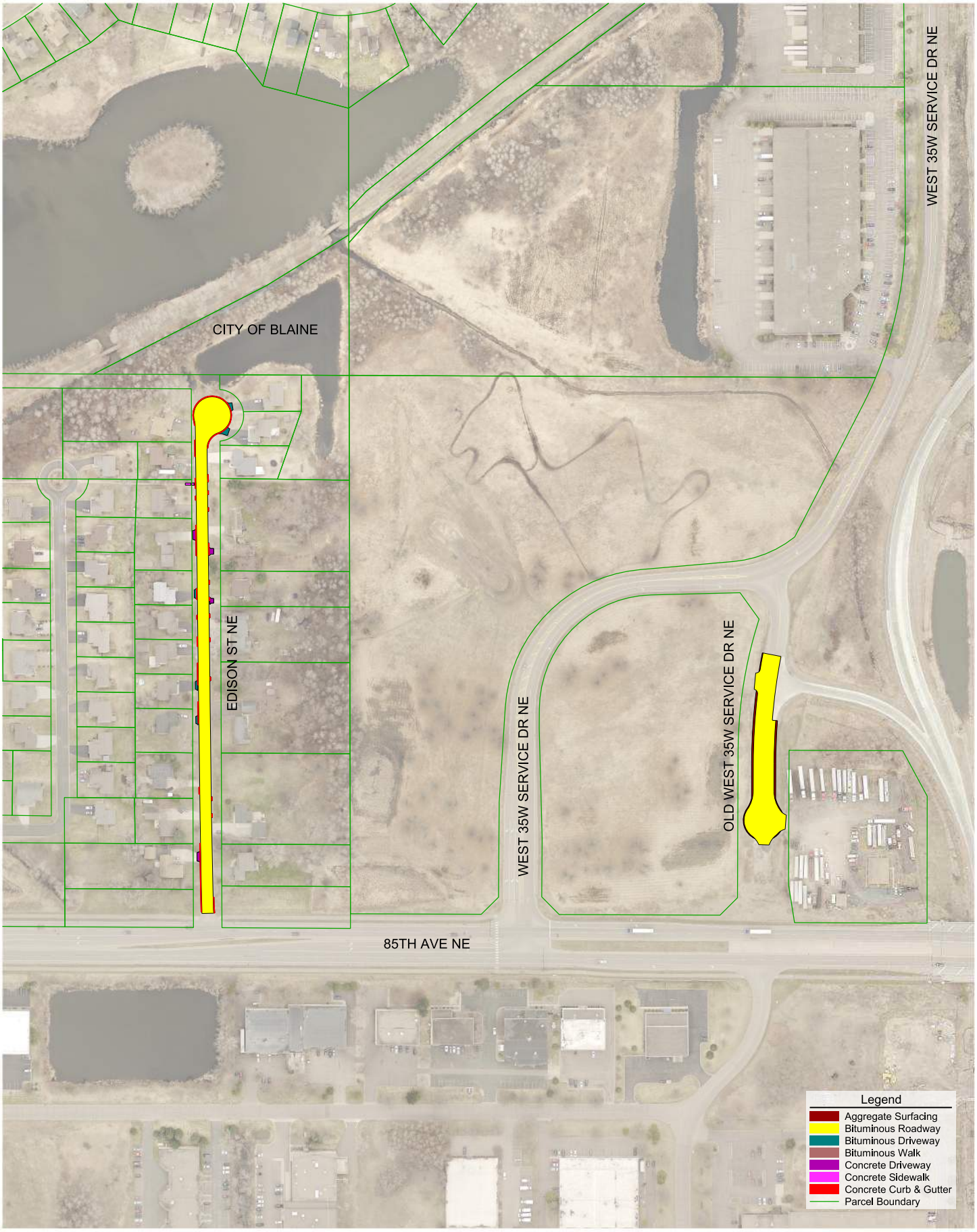
City of Blaine, Minnesota

N

0 150 300

SCALE IN FEET

wsb



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BlaineMN.gov

Exhibit 1: Area 2 & 3 Project Area Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

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SCALE IN FEET

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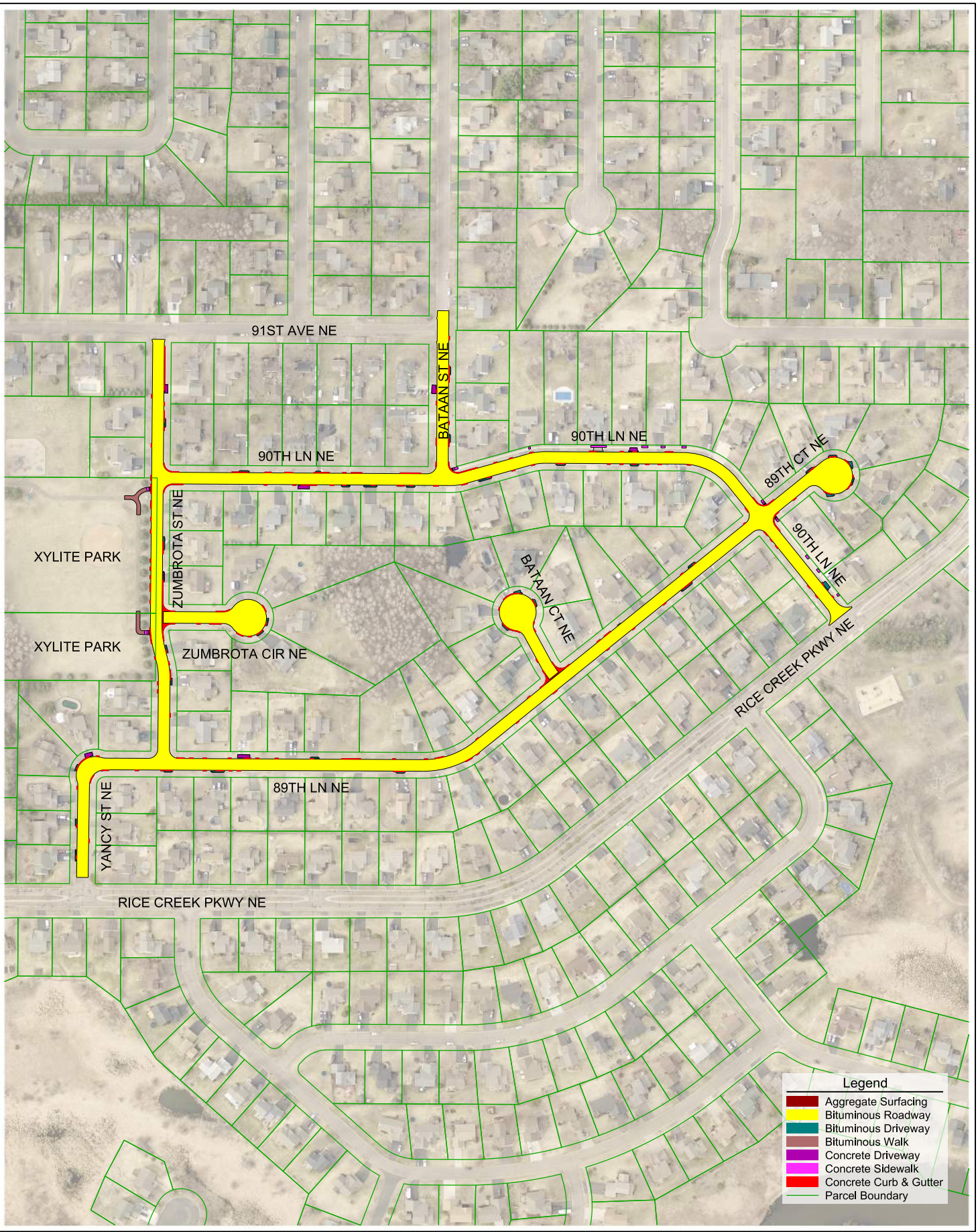

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Exhibit 1: Area 4 Project Area Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

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SCALE IN FEET

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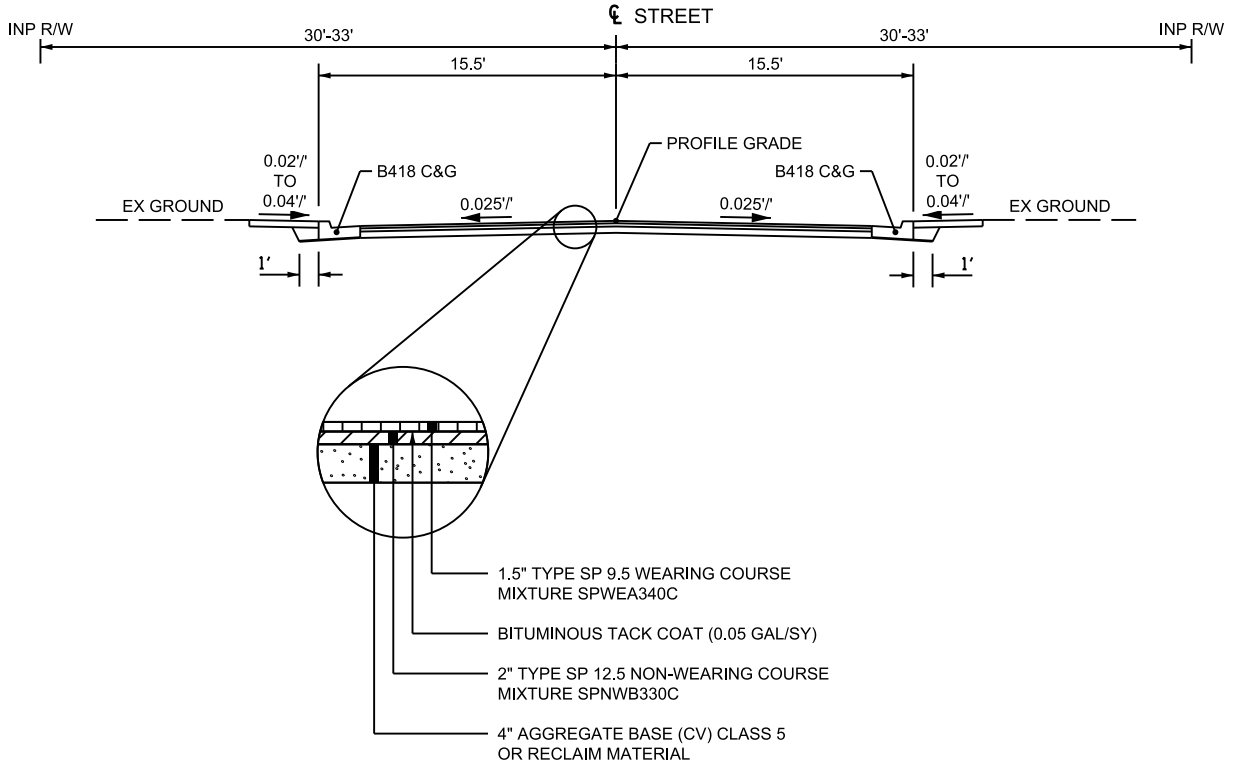
Area 1 Typical Section



Area 2 Typical Section

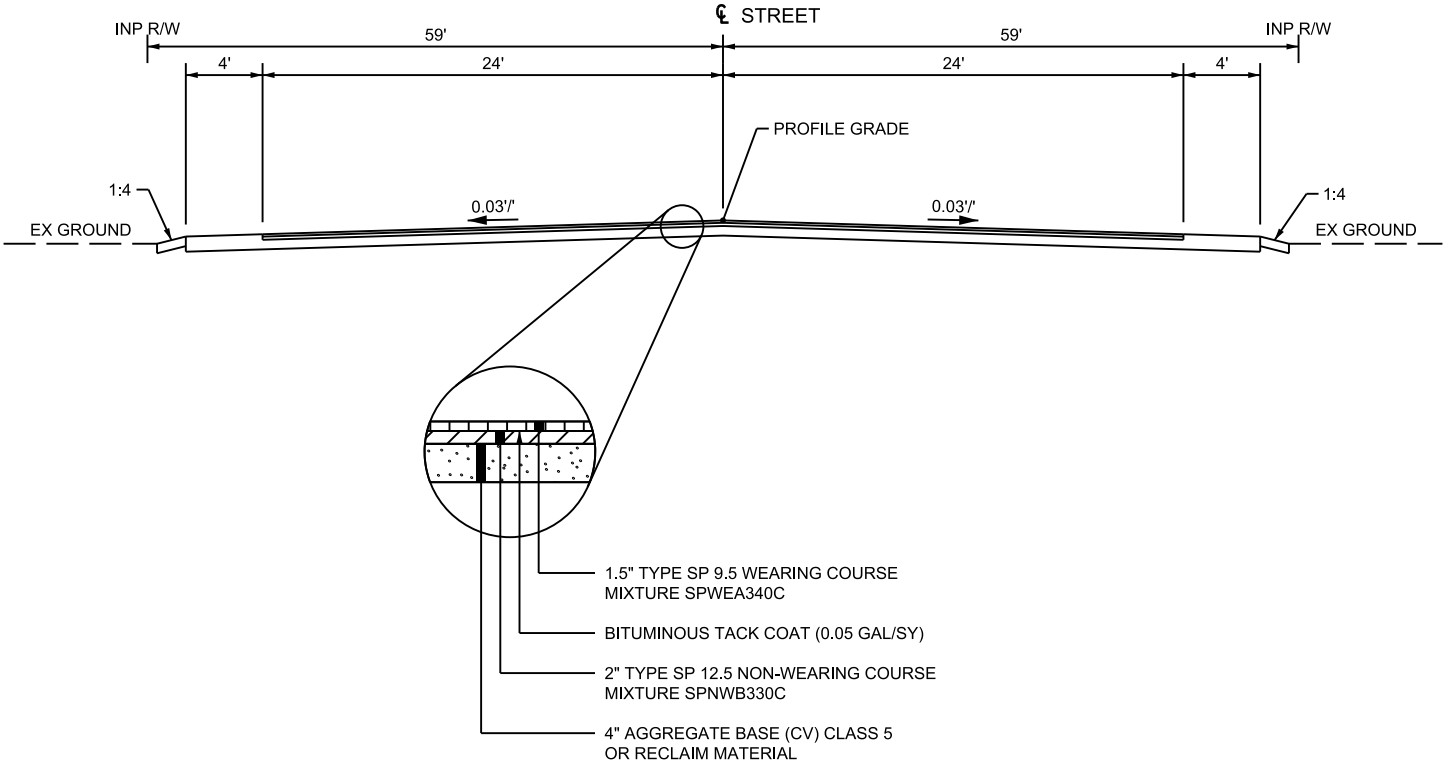


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Exhibit 2: Typical Sections

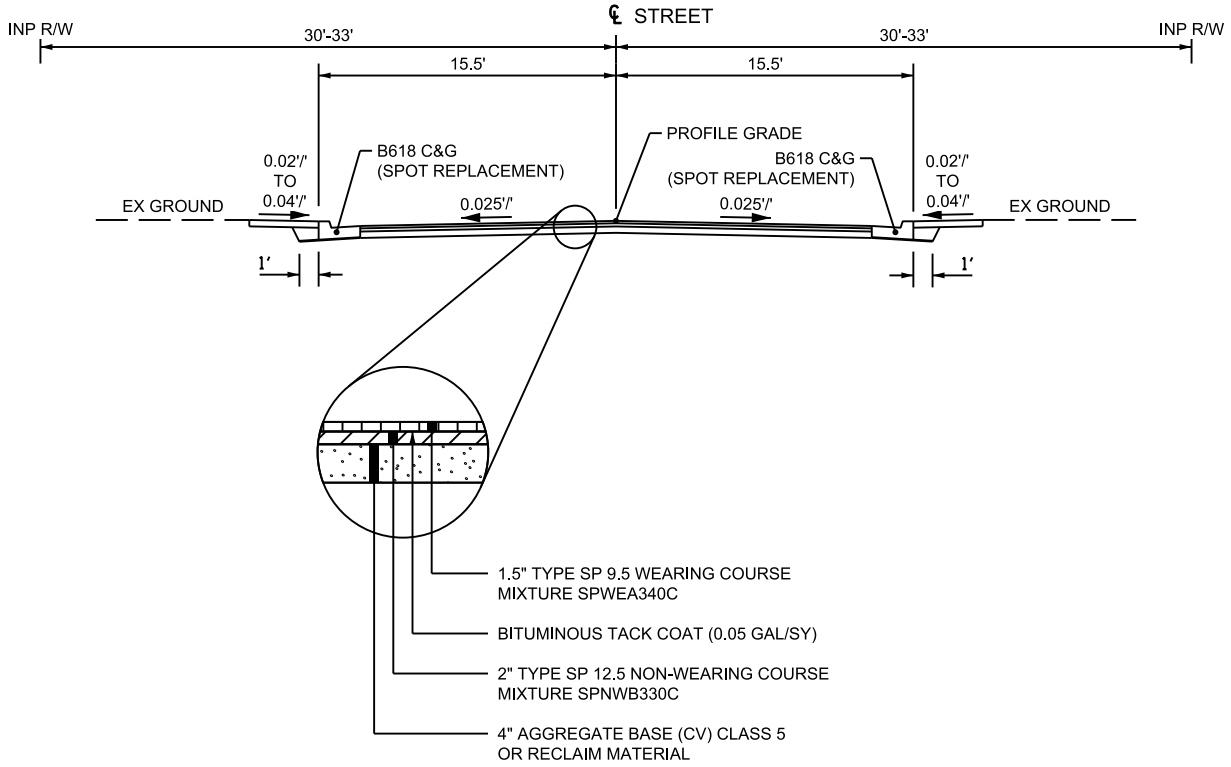
Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

0 5 10
SCALE IN FEET

wsb

Area 3 Typical Section



Area 4 Typical Section

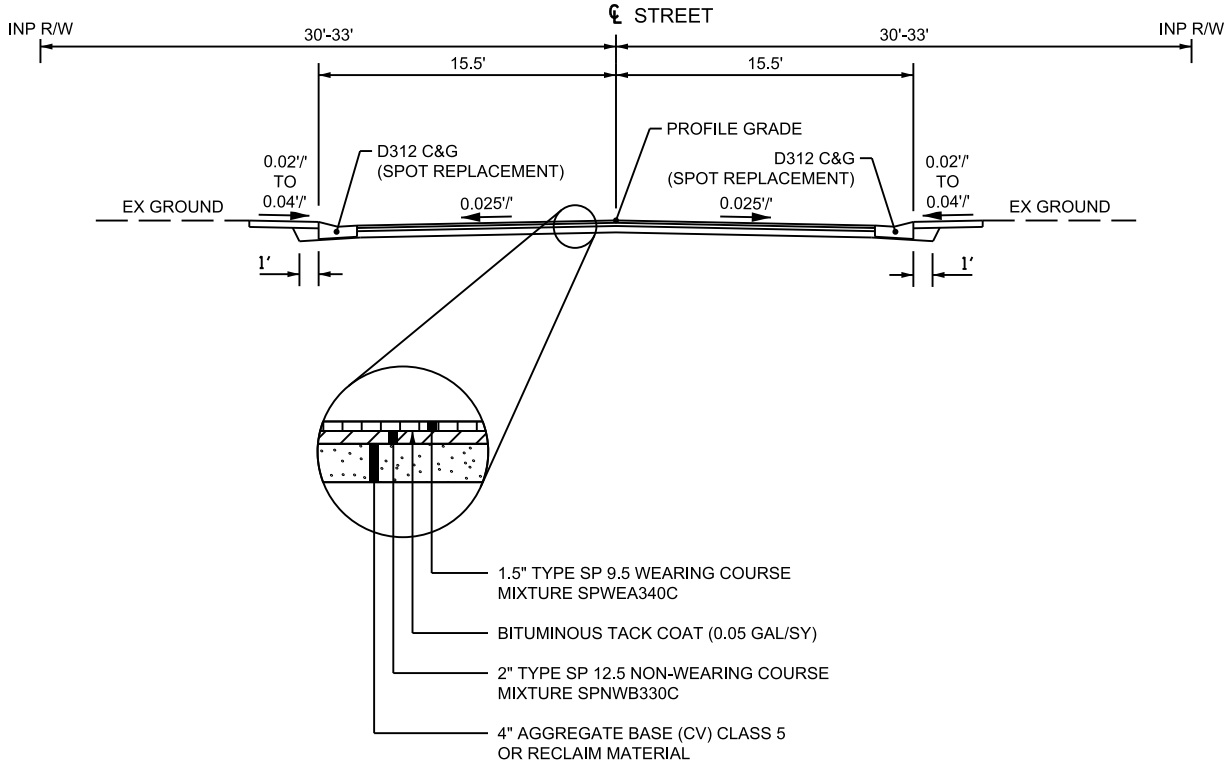


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Exhibit 2: Typical Sections

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

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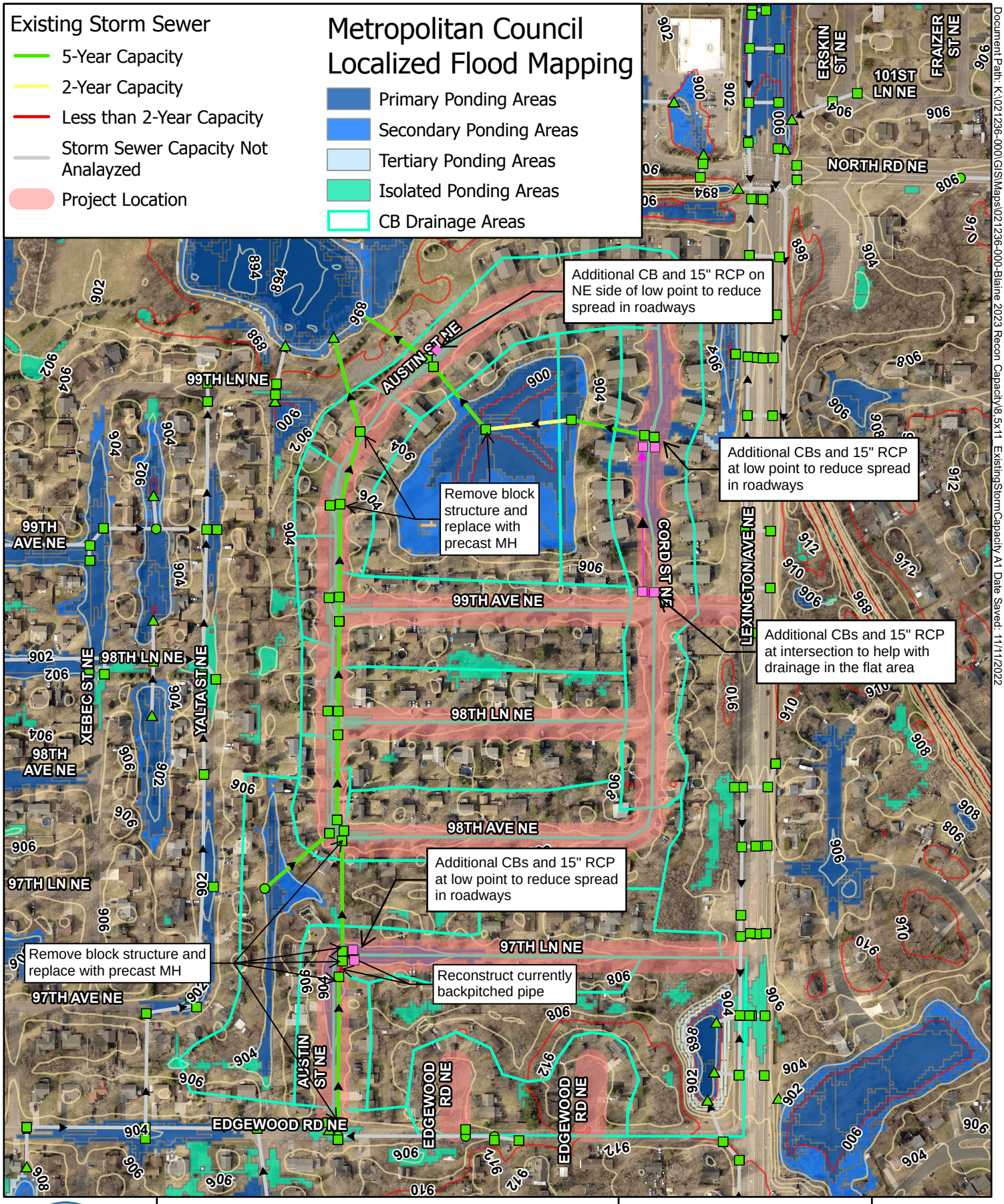

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Existing Storm Sewer Capacity

2023 Street Reconstruction Project
City of Blaine

N

0 350 Feet

1 inch = 350 feet

wsb

BlaineMN.gov

Existing Storm Sewer Capacity

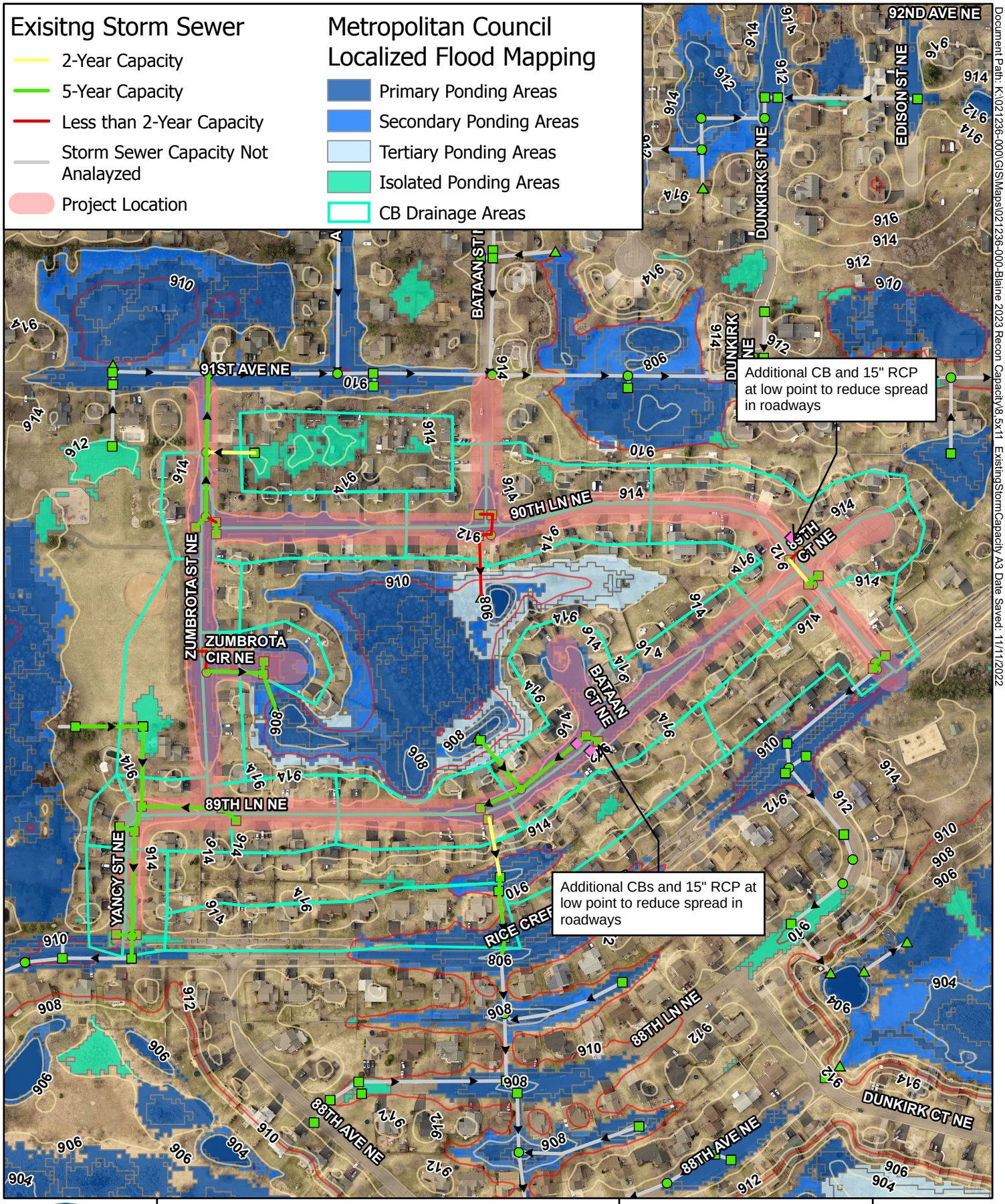
2023 Street Reconstruction Project
City of Blaine

N

0 300 Feet

1 inch = 300 feet

wsb



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Existing Storm Sewer Capacity

2023 Street Reconstruction Project
City of Blaine

N

0 300 Feet

1 inch = 300 feet

wsb

APPENDIX B

Opinion of Probable Cost

OPINION OF PROBABLE COST - FEASIBILITY

WSB Project: Southeast Area Street Reconstruction CP 23-08
Project Location: City of Blaine, Minnesota
WSB Project No: 021236-000

Item Number	Extension Number	Description	Unit	Unit Price	PROJECT TOTAL Estimated Quantity	PROJECT TOTAL Estimated Cost	AREA 1 Estimated Quantity	AREA 1 Estimated Cost	AREA 2 Estimated Quantity	AREA 2 Estimated Cost	AREA 3 Estimated Quantity	AREA 3 Estimated Cost	AREA 4 Estimated Quantity	AREA 4 Estimated Cost
A. ROADWAY CONSTRUCTION														
2021.501	00010	MOBILIZATION	LUMP SUM	$250,000.00	1	$250,000.00	0.64	$160,000.00	0.04	$10,000.00	0.06	$15,000.00	0.26	$65,000.00
2104.502	01220	REMOVE SIGN	EACH	$65.00	98	$6,370.00	57	$3,705.00	10	$650.00	6	$390.00	25	$1,625.00
2104.502	03590	SALVAGE MAIL BOX SUPPORT	EACH	$52.00	167	$8,684.00	111	$5,772.00			17	$884.00	39	$2,028.00
2104.503	00315	REMOVE CURB AND GUTTER	LIN FT	$6.00	20425	$122,550.00	16611	$99,666.00	40	$240.00	953	$5,718.00	2821	$16,926.00
2104.504	00090	REMOVE CONCRETE PAVEMENT	SQ YD	$11.50	273	$3,139.50	239	$2,748.50					34	$391.00
2215.504	00010	FULL DEPTH RECLAMATION	SQ YD	$3.00	50492	$151,476.00	25304	$75,912.00	2484	$7,452.00	3776	$11,328.00	18928	$56,784.00
2106.507	00010	EXCAVATION - COMMON (P)	CU YD	$15.00	5049	$75,738.00	2530	$37,956.00	248	$3,726.00	378	$5,664.00	1893	$28,392.00
2106.507	00130	COMMON EMBANKMENT (CV) (P)	CU YD	$16.00	5049	$80,787.20	2530	$40,486.40	248	$3,974.40	378	$6,041.60	1893	$30,284.80
2112.604	00010	SUBGRADE PREPARATION	SQ YD	$2.00	56775	$113,550.00	29068	$58,136.00	2732	$5,464.00	4154	$8,308.00	20821	$41,642.00
2123.610	00410	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$150.00	160	$24,000.00	40	$6,000.00	40	$6,000.00	40	$6,000.00	40	$6,000.00
2130.523	00010	WATER	MGAL	$30.00	200	$6,000.00	50	$1,500.00	50	$1,500.00	50	$1,500.00	50	$1,500.00
2211.509	00070	AGGREGATE BASE CLASS 5	TON	$15.00	2839	$42,581.25	1453	$21,801.00	137	$2,049.00	208	$3,115.50	1041	$15,615.75
2231.507	00020	BITUMINOUS PATCHING MIXTURE	TON	$90.00	8	$720.00			8	$720.00				
2357.507	00010	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	$3.50	2790	$9,765.00	1454	$5,089.00	134	$469.00	209	$731.50	993	$3,475.50
2360.509	13300	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	$90.00	4729	$425,610.00	2464	$221,760.00	228	$20,520.00	354	$31,860.00	1683	$151,470.00
2360.509	23305	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C)	TON	$95.00	6304	$598,880.00	3285	$312,075.00	303	$28,785.00	472	$44,840.00	2244	$213,180.00
2531.503	02080	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	$20.00	16649	$332,980.00	16649	$332,980.00						
2531.503	02120	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	$33.00	310	$10,230.00	310	$10,230.00						
2531.503	02315	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	$25.00	993	$24,825.00			40	$1,000.00	953	$23,825.00		
2531.505		CONCRETE CURB & GUTTER DESIGN D312	LIN FT	$25.00	2821	$70,525.00							2821	$70,525.00
2531.604	00208	8" CONCRETE VALLEY GUTTER	SQ YD	$100.00	393	$39,300.00	307	$30,700.00					86	$8,600.00
2540.602	00140	INSTALL MAIL BOX SUPPORT	EACH	$80.00	167	$13,360.00	111	$8,880.00			17	$1,360.00	39	$3,120.00
2563.601	00010	TRAFFIC CONTROL	LUMP SUM	$75,000.00	1	$75,000.00	0.64	$48,000.00	0.04	$3,000.00	0.06	$4,500.00	0.26	$19,500.00
2564.618	00010	SIGN	SQ FT	$65.00	436	$28,340.00	168	$10,920.00	50	$3,250.00	50	$3,250.00	168	$10,920.00
2573.501	00025	STABILIZED CONSTRUCTION EXIT	LUMP SUM	$20,000.00	1	$20,000.00	0.64	$12,800.00	0.04	$800.00	0.06	$1,200.00	0.26	$5,200.00
2573.502	00110	STORM DRAIN INLET PROTECTION	EACH	$185.00	92	$17,020.00	35	$6,475.00	2	$370.00	10	$1,850.00	45	$8,325.00
2573.503	00064	SEDIMENT CONTROL LOG TYPE COMPOST	LIN FT	$3.30	21354	$70,468.20	16611	$54,816.30	969	$3,197.70	953	$3,144.90	2821	$9,309.30
2574.505	00020	SOIL BED PREPARATION	ACRE	$175.00	5.2	$910.00	4.1	$717.50	0.2	$35.00	0.2	$35.00	0.7	$122.50
2574.507	00104	BOULEVARD TOPSOIL BORROW	CU YD	$25.00	2912	$72,800.00	2308	$57,700.00	90	$2,250.00	130	$3,250.00	384	$9,600.00
2574.508	00013	FERTILIZER TYPE 3	POUND	$1.00	1820	$1,820.00	1435	$1,435.00	70	$70.00	70	$70.00	245	$245.00
2575.504	00011	SODDING TYPE LAWN	SQ YD	$10.00	28474	$284,740.00	22149	$221,490.00	1293	$12,930.00	1271	$12,710.00	3761	$37,610.00
2575.523	00020	RAPID STABILIZATION METHOD 3	MGAL	$625.00	34	$21,250.00	25	$15,625.00	2	$1,250.00	2	$1,250.00	5	$3,125.00
ROADWAY CONSTRUCTION SUBTOTAL						$ 3,003,419.15		$ 1,865,375.70		$ 119,702.10		$ 197,825.50		$ 820,515.85
CONTINGENCY (10%)						$ 300,341.92		$ 186,537.57		$ 11,970.21		$ 19,782.55		$ 82,051.59
INDIRECT COST (30% OF SUBTOTAL + CONTINGENCY)						$ 991,128.32		$ 615,573.98		$ 39,501.69		$ 65,282.42		$ 270,770.23
ROADWAY TOTAL						$ 4,294,889.38		$ 2,667,487.25		$ 171,174.00		$ 282,890.47		$ 1,173,337.67
B. NON-ASSESSABLE ROADWAY CONSTRUCTION														
2101.502	00020	CLEARING	EACH	$450.00	68	$30,600.00	60	$27,000.00			2	$900.00	6	$2,700.00
2101.502	00020	GRUBBING	EACH	$400.00	68	$27,200.00	60	$24,000.00			2	$800.00	6	$2,400.00
2104.504	00080	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	$13.00	1078	$14,014.00	906	$11,778.00			44	$572.00	128	$1,664.00
2104.504	00110	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	$8.00	4321	$34,568.00	4003	$32,024.00			66	$528.00	252	$2,016.00
2104.518	00100	REMOVE BITUMINOUS WALK	SQ FT	$2.50	1790	$4,475.00	207	$517.50					1583	$3,957.50
2104.518	00140	REMOVE CONCRETE WALK	SQ FT	$3.00	1955	$5,865.00	1034	$3,102.00			169	$507.00	752	$2,256.00
2211.509	00070	AGGREGATE BASE CLASS 5	TON	$15.00	39	$585.00	36	$540.00			1	$15.00	2	$30.00
2301.602	00071	DRILL & GROUT REING BAR (EPOXY COATED)	EACH	$15.00	94	$1,410.00	64	$960.00			2	$30.00	28	$420.00
2360.504	23320	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C) 2.0" THICK	SQ YD	$22.00	9209	$202,598.00	8760	$192,720.00			150	$3,300.00	299	$6,578.00
2502.601	03000	IRRIGATION SYSTEM PROVISION	LUMP SUM	$20,000.00	1	$20,000.00	0.64	$12,800.00	0.04	$800.00	0.06	$1,200.00	0.26	$5,200.00
2502.601		LANDSCAPE PROVISION	LUMP SUM	$25,000.00	1	$25,000.00	0.64	$16,000.00	0.04	$1,000.00	0.06	$1,500.00	0.26	$6,500.00
2521.518	00040	4" CONCRETE WALK	SQ FT	$8.00	538	$4,304.00							538	$4,304.00

OPINION OF PROBABLE COST - FEASIBILITY

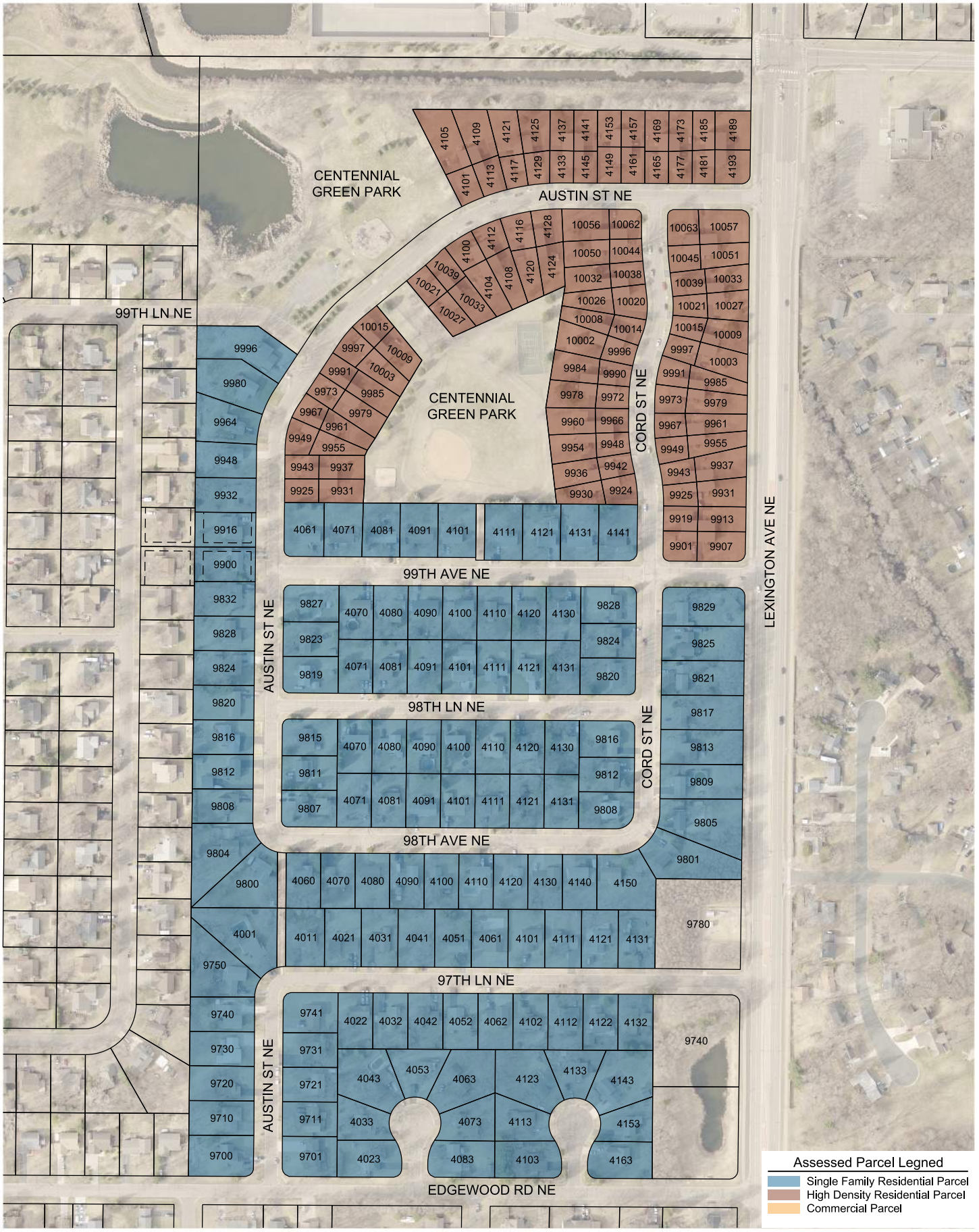
WSB Project: Southeast Area Street Reconstruction CP 23-08
Project Location: City of Blaine, Minnesota
WSB Project No: 021236-000

Item Number	Extension Number	Description	Unit	Unit Price	PROJECT TOTAL Estimated Quantity	PROJECT TOTAL Estimated Cost	AREA 1 Estimated Quantity	AREA 1 Estimated Cost	AREA 2 Estimated Quantity	AREA 2 Estimated Cost	AREA 3 Estimated Quantity	AREA 3 Estimated Cost	AREA 4 Estimated Quantity	AREA 4 Estimated Cost
2521.518	00060	6" CONCRETE WALK	SQ FT	$10.00	2086	$20,860.00	1514	$15,140.00			124	$1,240.00	448	$4,480.00
2521.518	00130	3" BITUMINOUS WALK	SQ FT	$7.00	1809	$12,663.00	273	$1,911.00					1536	$10,752.00
2531.504	00060	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	$70.00	1137	$79,590.00	949	$66,430.00			63	$4,410.00	125	$8,750.00
2531.618	00010	TRUNCATED DOMES	SQ FT	$150.00	136	$20,400.00	84	$12,600.00			12	$1,800.00	40	$6,000.00
2571.502	05060	CONIFEROUS TREE 6' HT B&B	EACH	$685.00	5	$3,425.00	5	$3,425.00						
2571.502	12250	DECIDUOUS TREE 2.5" CAL B&B	EACH	$860.00	44	$37,840.00	36	$30,960.00	2	$1,720.00			6	$5,160.00
NON-ASSESSABLE ROADWAY CONSTRUCTION SUBTOTAL						$ 487,597.00		$ 400,907.50		$ 3,520.00		$ 15,102.00		$ 68,067.50
CONTINGENCY (10%)						$ 48,759.70		$ 40,090.75		$ 352.00		$ 1,510.20		$ 6,806.75
INDIRECT COST (30% OF SUBTOTAL + CONTINGENCY)						$ 160,907.01		$ 132,299.48		$ 1,161.60		$ 4,983.66		$ 22,462.28
NON-ASSESSABLE ROADWAY CONSTRUCTION TOTAL						$ 697,263.71		$ 573,297.73		$ 5,033.60		$ 21,595.86		$ 97,336.53
C. WATERMAIN CONSTRUCTION														
2104.502	00810	REMOVE CURB BOX	EACH	$230.00	8	$1,840.00	8	$1,840.00						
2104.502	00850	REMOVE GATE VALVE & BOX	EACH	$395.00	21	$8,295.00	16	$6,320.00	3	$1,185.00			2	$790.00
2104.502	00870	REMOVE VALVE BOX	EACH	$280.00	9	$2,520.00	5	$1,400.00					4	$1,120.00
2504.602	00010	CONNECT TO EXISTING WATER MAIN	EACH	$1,600.00	32	$51,200.00	16	$25,600.00	6	$9,600.00			10	$16,000.00
2504.602	00030	VALVE BOX	EACH	$910.00	9	$8,190.00	5	$4,550.00					4	$3,640.00
2504.602	00808	8" GATE VALVE & BOX	EACH	$2,700.00	21	$56,700.00	16	$43,200.00	3	$8,100.00			2	$5,400.00
2504.602	03006	CURB BOX	EACH	$650.00	8	$5,200.00	8	$5,200.00						
WATERMAIN CONSTRUCTION SUBTOTAL						$ 133,945.00		$ 88,110.00		$ 18,885.00		$ -		$ 26,950.00
CONTINGENCY (10%)						$ 13,394.50		$ 8,811.00		$ 1,888.50		$ -		$ 2,695.00
INDIRECT COST (30% OF SUBTOTAL + CONTINGENCY)						$ 44,201.85		$ 29,076.30		$ 6,232.05		$ -		$ 8,893.50
WATERMAIN CONSTRUCTION TOTAL						$ 191,541.35		$ 125,997.30		$ 27,005.55		$ -		$ 38,538.50
D. SANITARY SEWER CONSTRUCTION														
2104.502	00820	REMOVE CASTING	EACH	$250.00	62	$15,500.00	32	$8,000.00	3	$750.00	4	$1,000.00	23	$5,750.00
2506.502	00500	CASTING ASSEMBLY	EACH	$850.00	62	$52,700.00	32	$27,200.00	3	$2,550.00	4	$3,400.00	23	$19,550.00
SANITARY SEWER CONSTRUCTION SUBTOTAL						$ 68,200.00		$ 35,200.00		$ 3,300.00		$ 4,400.00		$25,300.00
CONTINGENCY (10%)						$ 6,820.00		$ 3,520.00		$ 330.00		$ 440.00		$ 2,530.00
INDIRECT COST (30% OF SUBTOTAL + CONTINGENCY)						$ 22,506.00		$ 11,616.00		$ 1,089.00		$ 1,452.00		$ 8,349.00
SANITARY SEWER CONSTRUCTION TOTAL						$ 97,526.00		$ 50,336.00		$ 4,719.00		$ 6,292.00		$ 36,179.00
E. STORM SEWER CONSTRUCTION														
2104.502	00820	REMOVE CASTING	EACH	$250.00	57	$14,250.00	14	$3,500.00	3	$750.00	4	$1,000.00	36	$9,000.00
2104.502	00910	REMOVE DRAIANGE STRUCTURE	EACH	$650.00	10	$6,500.00	9	$5,850.00	1	$650.00				
2104.503	00285	REMOVE SEWER PIPE (STORM)	LIN FT	$30.00	43	$1,290.00	43	$1,290.00						
2503.503	19155	15" RC PIPE SEWER DES 3006 CL V	LIN FT	$75.00	571	$42,825.00	523	$39,225.00	32	$2,400.00			16	$1,200.00
2503.503	19303	30" RC PIPE SEWER DES 3006 CL III	LIN FT	$175.00	43	$7,525.00	43	$7,525.00						
2503.602	00320	CONNECT TO EXISTING STORM SEWER	EACH	$1,600.00	22	$35,200.00	18	$28,800.00	2	$3,200.00			2	$3,200.00
2503.602	00360	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	$1,250.00	7	$8,750.00	5	$6,250.00					2	$2,500.00
2506.502	06000	CASTING ASSEMBLY	EACH	$850.00	71	$60,350.00	25	$21,250.00	5	$4,250.00	4	$3,400.00	37	$31,450.00
2506.502	00080	CONST DRAINAGE STRUCTURE DESIGN H	EACH	$2,700.00	1	$2,700.00			1	$2,700.00				
2506.502	00300	CONST DRAINAGE STRUCTURE DESIGN SPECIAL	EACH	$2,600.00	7	$18,200.00	5	$13,000.00					2	$5,200.00
2506.503	02420	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	$750.00	25	$18,750.00	16	$12,000.00	4	$3,000.00			5	$3,750.00
2506.503	03020	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	$900.00	33	$29,700.00	33	$29,700.00						
2506.503	03620	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	$1,500.00	26	$39,000.00	26	$39,000.00						
STORM SEWER CONSTRUCTION SUBTOTAL						$ 285,040.00		$ 207,390.00		$ 16,950.00		$ 4,400.00		$ 56,300.00
CONTINGENCY (10%)						$ 28,504.00		$ 20,739.00		$ 1,695.00		$ 440.00		$ 5,630.00
INDIRECT COST (30% OF SUBTOTAL + CONTINGENCY)						$ 94,063.20		$ 68,438.70		$ 5,593.50		$ 1,452.00		$ 18,579.00
STORM SEWER CONSTRUCTION TOTAL						$ 407,607.20		$ 296,567.70		$ 24,238.50		$ 6,292.00		$ 80,509.00

PROJECT SUMMARY	PROJECT TOTAL	AREA 1	AREA 2	AREA 3	AREA 4
PROJECT SUBTOTAL	**$ 3,978,201.15**	**$ 2,596,983.20**	**$ 162,357.10**	**$ 221,727.50**	**$ 997,133.35**
CONTINGENCY SUBTOTAL	**$ 397,820.12**	**$ 259,698.32**	**$ 16,235.71**	**$ 22,172.75**	**$ 99,713.34**
ENGINEERING (18%)	**$ 787,683.83**	**$ 514,202.67**	**$ 32,146.71**	**$ 43,902.05**	**$ 197,432.40**
ASSESSMENT (1%)	**$ 43,760.21**	**$ 28,566.82**	**$ 1,785.93**	**$ 2,439.00**	**$ 10,968.47**
LEGAL (1%)	**$ 43,760.21**	**$ 28,566.82**	**$ 1,785.93**	**$ 2,439.00**	**$ 10,968.47**
ADMINISTRATION (5%)	**$ 218,801.06**	**$ 142,834.08**	**$ 8,929.64**	**$ 12,195.01**	**$ 54,842.33**
CAPITILIZED INTEREST (4%)	**$ 175,040.85**	**$ 114,267.26**	**$ 7,143.71**	**$ 9,756.01**	**$ 43,873.87**
BONDING (1%)	**$ 43,760.21**	**$ 28,566.82**	**$ 1,785.93**	**$ 2,439.00**	**$ 10,968.47**
PROJECT TOTAL	**$ 5,688,827.64**	**$ 3,713,685.98**	**$ 232,170.65**	**$ 317,070.33**	**$ 1,425,900.69**

APPENDIX C

Exhibit 1: Assessment Map
Exhibit 2: Proposed Assessment Roll



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BlaineMN.gov

Exhibit 1: Area 1 Project Assessment Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

0 150 300

SCALE IN FEET

wsb

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BlaineMN.gov

Exhibit 1: Area 2 & 3 Project Assessment Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

0 150 300

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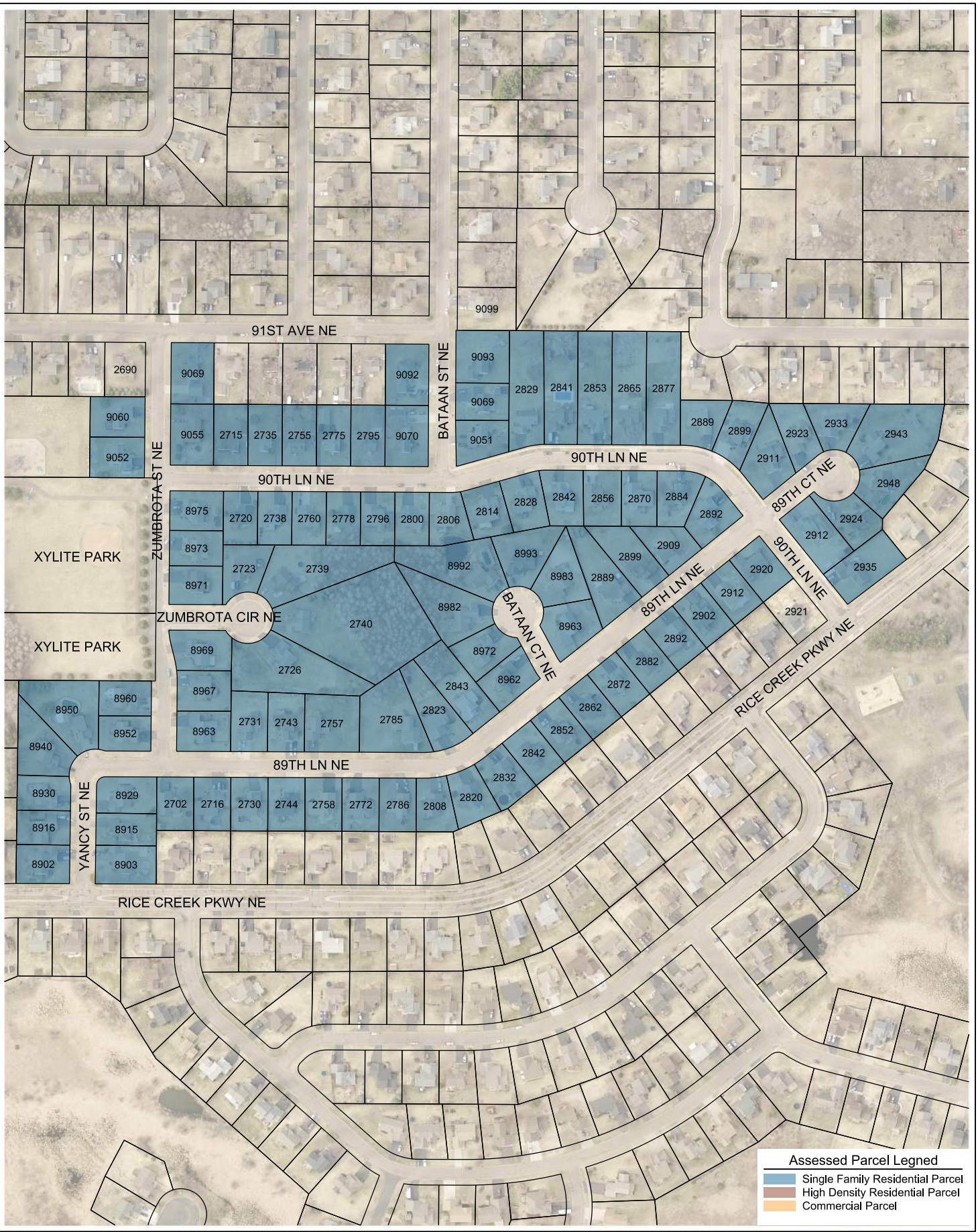

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BlaineMN.gov

Exhibit 1: Area 4 Project Assessment Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

0 150 300

SCALE IN FEET

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EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
HIGH DENSITY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*	$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)				
ADMINISTRATIVE COSTS	$684,012.68					
TOTAL COST	$2,964,054.95					
	HIGH DENSITY RESIDENTIAL x50%		TOTAL FRONT FOOTAGE		ASSESSMENT RATE PER FRONT FOOT	
ASSESSABLE COST	**$1,482,027.48**	**/**	**16299.9 LF**	**=**	**$90.92**	

HIGH DENSITY RESIDENTIAL PROPERTY

ASSESSMENT RATE		HIGH DENSITY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER HIGH DENSITY RESIDENTIAL LOT UNIT
$90.92	**X**	**3660.2 LF**	**=**	**$332,781.75**	**/**	**104**	**=**	**$3,199.82**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123110031	9925 AUSTIN ST NE	BUNKER ROBERT W & DENISE MARIE	1	$3,199.82	$3,199.82
263123110032	9931 AUSTIN ST NE	HOME SWEET HOMES LLC	1	$3,199.82	$3,199.82
263123110033	9937 AUSTIN ST NE	ANDERSON, MANDY	1	$3,199.82	$3,199.82
263123110034	9943 AUSTIN ST NE	LINDMAN, LAWRENCE A	1	$3,199.82	$3,199.82
263123110035	9949 AUSTIN ST NE	NEMITZ DON E & JANE	1	$3,199.82	$3,199.82
263123110036	9955 AUSTIN ST NE	MOHRLAND STEVE	1	$3,199.82	$3,199.82
263123110037	9961 AUSTIN ST NE	DEJARLAIS PATRICIA A	1	$3,199.82	$3,199.82
263123110038	9967 AUSTIN ST NE	SONTERRE DENISE M	1	$3,199.82	$3,199.82
263123110039	9973 AUSTIN ST NE	HURD, BANDITH	1	$3,199.82	$3,199.82
263123110040	9979 AUSTIN ST NE	LEX, ROBERT B	1	$3,199.82	$3,199.82
263123110041	9985 AUSTIN ST NE	NGONGANG, VIVIAN	1	$3,199.82	$3,199.82
263123110042	9991 AUSTIN ST NE	BRASK, TONNA M	1	$3,199.82	$3,199.82
263123110043	9997 AUSTIN ST NE	STOFFELS, JACQUELINE	1	$3,199.82	$3,199.82
263123110044	10003 AUSTIN ST NE	GELWICK AMY R & CURTIS J	1	$3,199.82	$3,199.82
263123110045	10009 AUSTIN ST NE	MASSIE, JULEE A	1	$3,199.82	$3,199.82
263123110046	10015 AUSTIN ST NE	MCMAHON JASON A & C R M	1	$3,199.82	$3,199.82
263123110047	10021 AUSTIN ST NE	GOFF, LAURA MARIE	1	$3,199.82	$3,199.82
263123110048	10027 AUSTIN ST NE	THOMAS DIANNE M	1	$3,199.82	$3,199.82
263123110049	10033 AUSTIN ST NE	WAMSLEY, MILA	1	$3,199.82	$3,199.82
263123110050	10039 AUSTIN ST NE	DROBNICK BRUCE C	1	$3,199.82	$3,199.82
263123110051	4100 AUSTIN ST NE	BALK JUDITH A	1	$3,199.82	$3,199.82
263123110052	4104 AUSTIN ST NE	DESSELLIER, TRISTEN D	1	$3,199.82	$3,199.82
263123110053	4108 AUSTIN ST NE	LYKE SANDRA K	1	$3,199.82	$3,199.82
263123110054	4112 AUSTIN ST NE	WEBBER LYNN M	1	$3,199.82	$3,199.82
263123110055	4116 AUSTIN ST NE	ENCINGER, JENNIFER	1	$3,199.82	$3,199.82
263123110056	4120 AUSTIN ST NE	ALU, ESSON D	1	$3,199.82	$3,199.82
263123110057	4124 AUSTIN ST NE	O'DONNELL, JODIE M	1	$3,199.82	$3,199.82
263123110058	4128 AUSTIN ST NE	LIANG, FUBO	1	$3,199.82	$3,199.82
263123110059	10056 CORD ST NE	FOSS, GLORIA	1	$3,199.82	$3,199.82
263123110060	10062 CORD ST NE	BLUE SKIES PROPERTIES LLC	1	$3,199.82	$3,199.82
263123110061	10044 CORD ST NE	GEAREY, LONA	1	$3,199.82	$3,199.82

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
HIGH DENSITY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*	$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)				
ADMINISTRATIVE COSTS	$684,012.68					
TOTAL COST	$2,964,054.95					
	HIGH DENSITY RESIDENTIAL x50%				ASSESSMENT RATE PER FRONT FOOT	
ASSESSABLE COST	**$1,482,027.48**	**/**	TOTAL FRONT FOOTAGE **16299.9 LF**	**=**	**$90.92**	

HIGH DENSITY RESIDENTIAL PROPERTY

ASSESSMENT RATE		HIGH DENSITY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER HIGH DENSITY RESIDENTIAL LOT UNIT
$90.92	**X**	**3660.2 LF**	**=**	**$332,781.75**	**/**	**104**	**=**	**$3,199.82**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123110062	10050 CORD ST NE	HEALY, CHRISTOPHER	1	$3,199.82	$3,199.82
263123110063	10032 CORD ST NE	BERG NANCY A	1	$3,199.82	$3,199.82
263123110064	10038 CORD ST NE	BEAUBIEN, WENDEE	1	$3,199.82	$3,199.82
263123110065	10020 CORD ST NE	PETERSON KELLY	1	$3,199.82	$3,199.82
263123110066	10026 CORD ST NE	USELMAN PATRICIA M	1	$3,199.82	$3,199.82
263123110067	10008 CORD ST NE	DAHLIN, PEGGY DIANE	1	$3,199.82	$3,199.82
263123110068	10014 CORD ST NE	CHAMPLIN MICHAEL J & AMANDA	1	$3,199.82	$3,199.82
263123110069	9996 CORD ST NE	SCHACHER, JAMES A	1	$3,199.82	$3,199.82
263123110070	10002 CORD ST NE	METROPOLITAN COUNCIL	1	$3,199.82	$3,199.82
263123110071	9984 CORD ST NE	FADDEN GLENN L	1	$3,199.82	$3,199.82
263123110072	9990 CORD ST NE	SWANSON, KURT	1	$3,199.82	$3,199.82
263123110073	9972 CORD ST NE	SWANSON, KENT	1	$3,199.82	$3,199.82
263123110074	9978 CORD ST NE	ANDERSON DARREL L & GAIL A	1	$3,199.82	$3,199.82
263123110075	9960 CORD ST NE	SANDBERG DEANN K & ERIC T	1	$3,199.82	$3,199.82
263123110076	9966 CORD ST NE	SUGDEN, JENNIFER L	1	$3,199.82	$3,199.82
263123110077	9948 CORD ST NE	KOEHLER, BENJAMIN P	1	$3,199.82	$3,199.82
263123110078	9954 CORD ST NE	BAROTT, MITCHELL GARY	1	$3,199.82	$3,199.82
263123110079	9936 CORD ST NE	JACOBSON, SARAH M	1	$3,199.82	$3,199.82
263123110080	9942 CORD ST NE	PETERSON, MARK J	1	$3,199.82	$3,199.82
263123110081	9924 CORD ST NE	PLUMMER, JENNIFER A	1	$3,199.82	$3,199.82
263123110082	9930 CORD ST NE	DOHRMANN, ROBB	1	$3,199.82	$3,199.82
263123110083	10063 CORD ST NE	LAKE, RICHARD A	1	$3,199.82	$3,199.82
263123110084	10057 CORD ST NE	CLAYPOOL, LARRY	1	$3,199.82	$3,199.82
263123110085	10051 CORD ST NE	MILLER, TRACY L	1	$3,199.82	$3,199.82
263123110086	10045 CORD ST NE	SMITH, KELSI A	1	$3,199.82	$3,199.82
263123110087	10039 CORD ST NE	PADILLA, JENNIFER L	1	$3,199.82	$3,199.82
263123110088	10033 CORD ST NE	BAKER, ASHLEY JO	1	$3,199.82	$3,199.82
263123110089	10027 CORD ST NE	SANTANA, DAVID J	1	$3,199.82	$3,199.82
263123110090	10021 CORD ST NE	HRONOSKI, RYAN	1	$3,199.82	$3,199.82
263123110091	10015 CORD ST NE	GERDIN YVONNE	1	$3,199.82	$3,199.82
263123110092	10009 CORD ST NE	SCHROEDER SHARON KAY	1	$3,199.82	$3,199.82
263123110093	10003 CORD ST NE	GREENWALDT, CASEY	1	$3,199.82	$3,199.82

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
HIGH DENSITY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*	$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)				
ADMINISTRATIVE COSTS	$684,012.68					
TOTAL COST	$2,964,054.95					
	HIGH DENSITY RESIDENTIAL x50%					ASSESSMENT RATE PER FRONT FOOT
ASSESSABLE COST	**$1,482,027.48**	**/**	**TOTAL FRONT FOOTAGE 16299.9 LF**	**=**	**$90.92**	

HIGH DENSITY RESIDENTIAL PROPERTY

ASSESSMENT RATE		HIGH DENSITY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER HIGH DENSITY RESIDENTIAL LOT UNIT
$90.92	**X**	**3660.2 LF**	**=**	**$332,781.75**	**/**	**104**	**=**	**$3,199.82**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123110094	9997 CORD ST NE	OETTEL, JASON A	1	$3,199.82	$3,199.82
263123110095	9991 CORD ST NE	COFIELD, JACQUELYN R	1	$3,199.82	$3,199.82
263123110096	9985 CORD ST NE	LIANG, FUBO	1	$3,199.82	$3,199.82
263123110097	9979 CORD ST NE	TURI, PEGGY LYNN	1	$3,199.82	$3,199.82
263123110098	9973 CORD ST NE	ZIEBARTH ANDREW E & JILL M	1	$3,199.82	$3,199.82
263123110099	9967 CORD ST NE	DAHN, LINDA B	1	$3,199.82	$3,199.82
263123110100	9961 CORD ST NE	BAHR V FRANK & SHARON K	1	$3,199.82	$3,199.82
263123110101	9955 CORD ST NE	KRASOWSKI, BRIANNE	1	$3,199.82	$3,199.82
263123110102	9949 CORD ST NE	PELTON, DARELL	1	$3,199.82	$3,199.82
263123110103	9943 CORD ST NE	LAMBRECHT JEFFREY & MELISSA	1	$3,199.82	$3,199.82
263123110104	9937 CORD ST NE	SU, HONGTAO	1	$3,199.82	$3,199.82
263123110105	9931 CORD ST NE	BARTOLAIN, KERRY	1	$3,199.82	$3,199.82
263123110106	9925 CORD ST NE	KING ANN	1	$3,199.82	$3,199.82
263123110107	9919 CORD ST NE	KENDLE AMBER & NICHOLAS	1	$3,199.82	$3,199.82
263123110108	9913 CORD ST NE	WORWA, AMY F	1	$3,199.82	$3,199.82
263123110109	9907 CORD ST NE	DIETRICH RHONDA J	1	$3,199.82	$3,199.82
263123110110	9901 CORD ST NE	BRONSON MARK	1	$3,199.82	$3,199.82
263123110111	4105 AUSTIN ST NE	JOHNSON, MELISSA BETH	1	$3,199.82	$3,199.82
263123110112	4101 AUSTIN ST NE	FERRELL, JESSICA A	1	$3,199.82	$3,199.82
263123110113	4113 AUSTIN ST NE	BEGIN CHERYL A	1	$3,199.82	$3,199.82
263123110114	4109 AUSTIN ST NE	WHITE JACQUELYNN MARIE	1	$3,199.82	$3,199.82
263123110115	4121 AUSTIN ST NE	SAUER JOSEPH JEROME	1	$3,199.82	$3,199.82
263123110116	4117 AUSTIN ST NE	THILL, KIMBERLY J	1	$3,199.82	$3,199.82
263123110117	4129 AUSTIN ST NE	BREEN, BRYAN M	1	$3,199.82	$3,199.82
263123110118	4125 AUSTIN ST NE	TALLMAN MICHELLE R & WILLIAM H	1	$3,199.82	$3,199.82
263123110119	4137 AUSTIN ST NE	KINDSVATER, DIANE M	1	$3,199.82	$3,199.82
263123110120	4133 AUSTIN ST NE	BUSH ROBERT LESLIE	1	$3,199.82	$3,199.82
263123110121	4145 AUSTIN ST NE	PETERSON, KATHLEEN A	1	$3,199.82	$3,199.82
263123110122	4141 AUSTIN ST NE	LARSON, RONALD K	1	$3,199.82	$3,199.82
263123110123	4153 AUSTIN ST NE	MELBERG, ANN	1	$3,199.82	$3,199.82
263123110124	4149 AUSTIN ST NE	KETZ, KANDI	1	$3,199.82	$3,199.82
263123110125	4161 AUSTIN ST NE	DIERKHISING, ADAM	1	$3,199.82	$3,199.82
263123110126	4157 AUSTIN ST NE	CLARK, ZACHARIAH T	1	$3,199.82	$3,199.82

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
HIGH DENSITY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*	$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)				
ADMINISTRATIVE COSTS	$684,012.68					
TOTAL COST	$2,964,054.95					
	HIGH DENSITY RESIDENTIAL x50%		TOTAL FRONT FOOTAGE		ASSESSMENT RATE PER FRONT FOOT	
ASSESSABLE COST	**$1,482,027.48**	**/**	**16299.9 LF**	**=**	**$90.92**	

HIGH DENSITY RESIDENTIAL PROPERTY

ASSESSMENT RATE		HIGH DENSITY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER HIGH DENSITY RESIDENTIAL LOT UNIT
$90.92	**X**	**3660.2 LF**	**=**	**$332,781.75**	**/**	**104**	**=**	**$3,199.82**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123110127	4169 AUSTIN ST NE	KELLY JR, EDWARD M	1	$3,199.82	$3,199.82
263123110128	4165 AUSTIN ST NE	WOODS MICHAEL C	1	$3,199.82	$3,199.82
263123110129	4177 AUSTIN ST NE	HARRIS, STEVEN	1	$3,199.82	$3,199.82
263123110130	4173 AUSTIN ST NE	TIPLER CONSTANCE S	1	$3,199.82	$3,199.82
263123110131	4185 AUSTIN ST NE	BRENGMAN, CYNTHIA R	1	$3,199.82	$3,199.82
263123110132	4181 AUSTIN ST NE	SPURBECK LISA	1	$3,199.82	$3,199.82
263123110133	4193 AUSTIN ST NE	SAKKAL, FADEL	1	$3,199.82	$3,199.82
263123110134	4189 AUSTIN ST NE	KRISTOFITZ, GARY	1	$3,199.82	$3,199.82
		TOTAL:	104		$332,781.28

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$684,012.68				
TOTAL COST		$2,964,054.95				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$1,037,419.23**	**/**	**16299.9 LF**	**=**	**$63.65**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$63.65	**X**	**10035.7 LF**	**=**	**$638,769.12**	**/**	**128**	**=**	**$4,990.38**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123110004	9829 CORD ST NE	PAVLICA, DEBORAH	1	$4,990.38	$4,990.38
263123110005	9832 AUSTIN ST NE	SVEIVEN GARY M & DENISE A	1	$4,990.38	$4,990.38
263123110006	9900 AUSTIN ST NE	ERICKSON JAMES L & DEBRA L	1	$4,990.38	$4,990.38
263123110007	4070 99TH AVE NE	PRIOR RANDY R & RITA J	1	$4,990.38	$4,990.38
263123110008	4080 99TH AVE NE	NICKERSON TRUSTEE, LU A	1	$4,990.38	$4,990.38
263123110009	4090 99TH AVE NE	CLOUTIER, CRYSTAL	1	$4,990.38	$4,990.38
263123110010	4100 99TH AVE NE	WATTERS OLAN E JR & MODISETTE	1	$4,990.38	$4,990.38
263123110011	4110 99TH AVE NE	BURR KYLE	1	$4,990.38	$4,990.38
263123110012	4120 99TH AVE NE	SORENSON, JENNIFER L	1	$4,990.38	$4,990.38
263123110013	4130 99TH AVE NE	HAGBERG, LARRY	1	$4,990.38	$4,990.38
263123110014	9828 CORD ST NE	HOFFMANN, ANDREA L	1	$4,990.38	$4,990.38
263123110015	9827 AUSTIN ST NE	NELSON JAY BRENT	1	$4,990.38	$4,990.38
263123110016	4111 99TH AVE NE	HOGEN, BRIAN D	1	$4,990.38	$4,990.38
263123110017	4121 99TH AVE NE	OCHOA, KARINA	1	$4,990.38	$4,990.38
263123110018	4131 99TH AVE NE	MARINELLO, RICK A	1	$4,990.38	$4,990.38
263123110019	4141 99TH AVE NE	LAWLER MARY C	1	$4,990.38	$4,990.38
263123110020	4061 99TH AVE NE	DULLINGER WAYNE A	1	$4,990.38	$4,990.38
263123110021	4071 99TH AVE NE	KNAEBLE, DEANNA M	1	$4,990.38	$4,990.38
263123110022	4081 99TH AVE NE	ZSCHOKKE ROBERT & CYNTHIA	1	$4,990.38	$4,990.38
263123110023	4091 99TH AVE NE	SEMIC, FIKRET	1	$4,990.38	$4,990.38
263123110024	4101 99TH AVE NE	MANTHEI BRUCE L & SHERRI	1	$4,990.38	$4,990.38
263123110025	9916 AUSTIN ST NE	HPA BORROWER 2016-2 ML LLC	1	$4,990.38	$4,990.38
263123110026	9932 AUSTIN ST NE	REHBEIN, MICHAEL A	1	$4,990.38	$4,990.38
263123110027	9948 AUSTIN ST NE	KIPPELS JENNIFER STEELE	1	$4,990.38	$4,990.38
263123110028	9964 AUSTIN ST NE	ARGO, GEMEDA	1	$4,990.38	$4,990.38
263123110029	9980 AUSTIN ST NE	KHAN MAHMOOD	1	$4,990.38	$4,990.38
263123110030	9996 AUSTIN ST NE	LONEY BRYCE A C & SARAH M	1	$4,990.38	$4,990.38
263123140002	4022 97TH LN NE	ELMS MARK T & LISA J	1	$4,990.38	$4,990.38
263123140003	4032 97TH LN NE	JOHNSON TASHYA	1	$4,990.38	$4,990.38
263123140004	4042 97TH LN NE	DILBECK MARK C & FELLERMAN J L	1	$4,990.38	$4,990.38
263123140005	4052 97TH LN NE	GULLICKSON, KEVIN R	1	$4,990.38	$4,990.38
263123140006	4062 97TH LN NE	WONG, NANCY K	1	$4,990.38	$4,990.38

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$684,012.68				
TOTAL COST		$2,964,054.95				
	RESIDENTIAL RATE	x35%				ASSESSMENT RATE PER FRONT FOOT
ASSESSABLE COST		**$1,037,419.23**	**/**	**16299.9 LF**	**=**	**$63.65**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$63.65	**X**	**10035.7 LF**	**=**	**$638,769.12**	**/**	**128**	**=**	**$4,990.38**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123140007	4102 97TH LN NE	MICKLE DOUGLAS R	1	$4,990.38	$4,990.38
263123140008	4112 97TH LN NE	DIANE, SODERHOLM M	1	$4,990.38	$4,990.38
263123140009	4122 97TH LN NE	VINCENT, TODD C	1	$4,990.38	$4,990.38
263123140010	4132 97TH LN NE	HOGENDORF, KAREN F	1	$4,990.38	$4,990.38
263123140013	4163 EDGEWOOD RD NE	VOSS, AMY J	1	$4,990.38	$4,990.38
263123140014	4153 EDGEWOOD RD NE	BAILEY TRUSTEE, KELBIN R	1	$4,990.38	$4,990.38
263123140015	4143 EDGEWOOD RD NE	REIGSTAD DARYLL W & G L	1	$4,990.38	$4,990.38
263123140016	4133 EDGEWOOD RD NE	OSBERG, DAVID	1	$4,990.38	$4,990.38
263123140017	4123 EDGEWOOD RD NE	LINDQUIST JON K & LINDA D	1	$4,990.38	$4,990.38
263123140018	4113 EDGEWOOD RD NE	WOLD TERRY W & DONNA A	1	$4,990.38	$4,990.38
263123140019	4103 EDGEWOOD RD NE	ROBINSON, STEVEN A	1	$4,990.38	$4,990.38
263123140020	4083 EDGEWOOD RD NE	BYMARK TANI M	1	$4,990.38	$4,990.38
263123140021	4073 EDGEWOOD RD NE	HANSEN KURT K & HEIDI K	1	$4,990.38	$4,990.38
263123140022	4063 EDGEWOOD RD NE	STOTT, ROBERT J	1	$4,990.38	$4,990.38
263123140023	4053 EDGEWOOD RD NE	KOFORD TERRY W & ELIZABETH	1	$4,990.38	$4,990.38
263123140024	4043 EDGEWOOD RD NE	JOYAL, LISA	1	$4,990.38	$4,990.38
263123140025	4033 EDGEWOOD RD NE	LEJEUNE DANIEL M & KERRI H	1	$4,990.38	$4,990.38
263123140026	4023 EDGEWOOD RD NE	BRADLEY DONALD M & BEVERLY	1	$4,990.38	$4,990.38
263123140027	9701 AUSTIN ST NE	LECHNER, CLINT W	1	$4,990.38	$4,990.38
263123140028	9711 AUSTIN ST NE	NORTON, CHRISTOPHER	1	$4,990.38	$4,990.38
263123140029	9721 AUSTIN ST NE	JOHNSON, AMBER R	1	$4,990.38	$4,990.38
263123140030	9731 AUSTIN ST NE	HANSON MICHAEL S & JULIE L	1	$4,990.38	$4,990.38
263123140031	9741 AUSTIN ST NE	CUTTER, BENJAMIN J	1	$4,990.38	$4,990.38
263123140032	9700 AUSTIN ST NE	XIONG FOUNG W & VANG MAY	1	$4,990.38	$4,990.38
263123140033	9710 AUSTIN ST NE	LUNDMARK CRAIG R	1	$4,990.38	$4,990.38
263123140034	9720 AUSTIN ST NE	BANASZEWSKI ROBERT L & P J	1	$4,990.38	$4,990.38
263123140035	9730 AUSTIN ST NE	JECHORT PAUL F & S M	1	$4,990.38	$4,990.38
263123140036	9740 AUSTIN ST NE	NGUYEN, LYNN	1	$4,990.38	$4,990.38
263123140037	9750 AUSTIN ST NE	CARDILLE DANIEL J	1	$4,990.38	$4,990.38
263123140038	4001 97TH LN NE	DRAHEIM, DANIELLE	1	$4,990.38	$4,990.38
263123140039	4011 97TH LN NE	DIAZ, JOHN F	1	$4,990.38	$4,990.38
263123140040	4021 97TH LN NE	NGUYEN, THAN	1	$4,990.38	$4,990.38
263123140041	4031 97TH LN NE	ADAMS TODD W & DEADRA D	1	$4,990.38	$4,990.38

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$684,012.68				
TOTAL COST		$2,964,054.95				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$1,037,419.23**	**/**	**16299.9 LF**	**=**	**$63.65**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$63.65	**X**	**10035.7 LF**	**=**	**$638,769.12**	**/**	**128**	**=**	**$4,990.38**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123140042	4041 97TH LN NE	SCHMIDT, JASON	1	$4,990.38	$4,990.38
263123140043	4051 97TH LN NE	DEVANEY, KRISTI R	1	$4,990.38	$4,990.38
263123140044	4061 97TH LN NE	SUMMERFIELD CHRIS A & ANNA	1	$4,990.38	$4,990.38
263123140045	4101 97TH LN NE	MICHELSON, BRIAN D	1	$4,990.38	$4,990.38
263123140046	4111 97TH LN NE	LOEFFLER, NICOLE D	1	$4,990.38	$4,990.38
263123140047	4121 97TH LN NE	WHITNEY, JACOB	1	$4,990.38	$4,990.38
263123140048	4131 97TH LN NE	ANDERSON PAUL R & LAURA	1	$4,990.38	$4,990.38
263123140049	9825 CORD ST NE	HYLTON, THOMAS P	1	$4,990.38	$4,990.38
263123140050	9821 CORD ST NE	TRYBUCHOWSKI FRANCSZK J & K D	1	$4,990.38	$4,990.38
263123140051	9817 CORD ST NE	KLUN, MATTHEW JOSEPH	1	$4,990.38	$4,990.38
263123140052	9813 CORD ST NE	HARRIS, MICHAEL J	1	$4,990.38	$4,990.38
263123140053	9809 CORD ST NE	HAYES JENNIFER S & RAYMOND	1	$4,990.38	$4,990.38
263123140054	9805 CORD ST NE	HOA BAO HONG & HUYEN TRAN	1	$4,990.38	$4,990.38
263123140055	9801 CORD ST NE	HOFFARD, MARK H	1	$4,990.38	$4,990.38
263123140056	4150 98TH AVE NE	EITEL PETER L & DONNA J	1	$4,990.38	$4,990.38
263123140057	4140 98TH AVE NE	BURDORF, JENNIFER LYNN	1	$4,990.38	$4,990.38
263123140058	4130 98TH AVE NE	SPATAFORE DAVID R	1	$4,990.38	$4,990.38
263123140059	4120 98TH AVE NE	PYARALI TRUSTEE, GHULAM ABBAS	1	$4,990.38	$4,990.38
263123140060	4110 98TH AVE NE	MOORE, GENE	1	$4,990.38	$4,990.38
263123140061	4100 98TH AVE NE	WHEELER BRIAN C & DIANE M	1	$4,990.38	$4,990.38
263123140062	4090 98TH AVE NE	PICKETT, KEITH OWEN	1	$4,990.38	$4,990.38
263123140063	4080 98TH AVE NE	PRCIC ZIJAD & PRCIC SELMA K	1	$4,990.38	$4,990.38
263123140064	4070 98TH AVE NE	LYNCH LUISE B	1	$4,990.38	$4,990.38
263123140065	4060 98TH AVE NE	KETCHUM DALE B	1	$4,990.38	$4,990.38
263123140066	9800 AUSTIN ST NE	PEARL KEITH B & JACQUELINE J	1	$4,990.38	$4,990.38
263123140067	9804 AUSTIN ST NE	KREHL, TIMOTHY WALTER	1	$4,990.38	$4,990.38
263123140068	9808 AUSTIN ST NE	GATES, NATHAN	1	$4,990.38	$4,990.38
263123140069	9812 AUSTIN ST NE	PALMER JOHN A & DOREEN A	1	$4,990.38	$4,990.38
263123140070	9816 AUSTIN ST NE	GELLE DAVID R & AGNES F	1	$4,990.38	$4,990.38
263123140071	9820 AUSTIN ST NE	BRONSINK, CHRISTOPHER JAY	1	$4,990.38	$4,990.38
263123140072	9824 AUSTIN ST NE	GIGRICH KEVIN T & LISA T	1	$4,990.38	$4,990.38
263123140073	9828 AUSTIN ST NE	LYONS JULIE M	1	$4,990.38	$4,990.38
263123140074	4070 98TH LN NE	BROWN, TIMOTHY LEE	1	$4,990.38	$4,990.38
263123140075	4080 98TH LN NE	ROSS, SHANAN	1	$4,990.38	$4,990.38

EXHIBIT NO. 2 - AREA 1 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$2,280,042.27	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$684,012.68				
TOTAL COST		$2,964,054.95				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$1,037,419.23**	**/**	**16299.9 LF**	**=**	**$63.65**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$63.65	**X**	**10035.7 LF**	**=**	**$638,769.12**	**/**	**128**	**=**	**$4,990.38**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
263123140076	4090 98TH LN NE	SILVERDAHL STEVEN & KRISTY	1	$4,990.38	$4,990.38
263123140077	4100 98TH LN NE	DURO, ELVEDIN	1	$4,990.38	$4,990.38
263123140078	4110 98TH LN NE	CROWLEY, JUSTIN J	1	$4,990.38	$4,990.38
263123140079	4120 98TH LN NE	FARLEY CHARLES E JR & SUSAN M	1	$4,990.38	$4,990.38
263123140080	4130 98TH LN NE	MOREHOUSE L & COLSTROM C A	1	$4,990.38	$4,990.38
263123140081	9816 CORD ST NE	NELSON JOHN C & CYNTHIA J	1	$4,990.38	$4,990.38
263123140082	9812 CORD ST NE	HOFLAND STEVEN T & AMY K	1	$4,990.38	$4,990.38
263123140083	9808 CORD ST NE	TORNGA KYLE	1	$4,990.38	$4,990.38
263123140084	4131 98TH AVE NE	MUCHA DARYL S	1	$4,990.38	$4,990.38
263123140085	4121 98TH AVE NE	DOMAGALL, CHRISTIAN J	1	$4,990.38	$4,990.38
263123140086	4111 98TH AVE NE	FORLITI-ASKA, LISSA ANNE	1	$4,990.38	$4,990.38
263123140087	4101 98TH AVE NE	REED MICHAEL A & REGINA J	1	$4,990.38	$4,990.38
263123140088	4091 98TH AVE NE	VOELKER-CHRISTY, ALYSSA J	1	$4,990.38	$4,990.38
263123140089	4081 98TH AVE NE	DOUTHITT, JEFFREY A	1	$4,990.38	$4,990.38
263123140090	4071 98TH AVE NE	RAMM KENNERA J	1	$4,990.38	$4,990.38
263123140091	9807 AUSTIN ST NE	LOR SAM F & DA X	1	$4,990.38	$4,990.38
263123140092	9811 AUSTIN ST NE	RAKIN, IVAN	1	$4,990.38	$4,990.38
263123140093	9815 AUSTIN ST NE	BLAISDELL, DANIEL R	1	$4,990.38	$4,990.38
263123140094	9824 CORD ST NE	PEREZ GEORGE J & MARIA A	1	$4,990.38	$4,990.38
263123140095	9820 CORD ST NE	STERNER SUSAN M	1	$4,990.38	$4,990.38
263123140096	4131 98TH LN NE	DILKS, CHRISTOPHER T	1	$4,990.38	$4,990.38
263123140097	4121 98TH LN NE	GRAY HAROLD E & NANCY A	1	$4,990.38	$4,990.38
263123140098	4111 98TH LN NE	PFLUGER, RANDY S	1	$4,990.38	$4,990.38
263123140099	4101 98TH LN NE	BENSON TODD B	1	$4,990.38	$4,990.38
263123140100	4091 98TH LN NE	SHIMEK STEVEN B & CHERYL A	1	$4,990.38	$4,990.38
263123140101	4081 98TH LN NE	WOHLWEND WILLIAM S	1	$4,990.38	$4,990.38
263123140102	4071 98TH LN NE	RUMREICH, BAILEY J	1	$4,990.38	$4,990.38
263123140103	9819 AUSTIN ST NE	MORRISON, ROBIN R	1	$4,990.38	$4,990.38
263123140104	9823 AUSTIN ST NE	APIKELIS, MELISSA A	1	$4,990.38	$4,990.38
		TOTAL:	128		$638,768.64

EXHIBIT NO. 2 - AREA 2 PROPOSED ASSESSMENT ROLL
COMMERCIAL / INDUSTRIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*	$150,317.31	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS	$45,095.19				
TOTAL COST	$195,412.50				
					ASSESSMENT RATE PER FRONT FOOT
COMMERCIAL/INDUSTRIAL RATE	x50%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST	**$97,706.25**	**/**	**1182.7 LF**	**=**	**$82.61**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE FOOTAGE	ASSESSMENT RATE PER FRONT FOOT	PROPOSED ASSESSMENT
343123430015	8501 OLD WEST 35W SERVICE DR NE	E KIEFER LIMITED PARTNERSHIP	209.1	$82.61	$17,275.40
343123430016	8611 WEST 35W SERVICE DR NE	WHITEWATER PROPERTIES I LLC	442.3	$82.61	$36,539.23
		TOTAL:	651.4		$53,814.63

EXHIBIT NO. 2 - AREA 3 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$222,448.05	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$66,734.42				
TOTAL COST		$289,182.47				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$101,213.86**	**/**	**2513.0 LF**	**=**	**$40.28**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$40.28	**X**	**2353.6 LF**	**=**	**$94,801.40**	**/**	**23**	**=**	**$4,121.80**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
343123340002	8609 EDISON ST NE	KAISER STEPHEN E & P A	1	$4,121.80	$4,121.80
343123340003	8601 EDISON ST NE	BECKER PAUL R & KRISTI H	1	$4,121.80	$4,121.80
343123340004	8605 EDISON ST NE	ARNOLD, CODY B	1	$4,121.80	$4,121.80
343123340005	8551 EDISON ST NE	BERGREN, CHERYL D	2	$4,121.80	$8,243.60
343123340016	8504 EDISON ST NE	ALVAREZ, RUTH ELIZABETH	1	$4,121.80	$4,121.80
343123340030	8521 EDISON ST NE	LEE, BLACKIE	2	$4,121.80	$8,243.60
343123340032	8674 EDISON ST NE	KAITZ, SARAH MARIE	1	$4,121.80	$4,121.80
343123340033	8691 EDISON ST NE	LEY GREGORY R	1	$4,121.80	$4,121.80
343123340034	8671 EDISON ST NE	LITTLE SCOTT R & DAWN R	1	$4,121.80	$4,121.80
343123340035	8651 EDISON ST NE	HAUGEN CORY M & MELISSA	1	$4,121.80	$4,121.80
343123340037	8552 EDISON ST NE	SHOGREN, SHIRLEY A	1	$4,121.80	$4,121.80
343123340038	8548 EDISON ST NE	PETERSON ERIC A	1	$4,121.80	$4,121.80
343123340039	8544 EDISON ST NE	KINNEY JAMES & JANET	1	$4,121.80	$4,121.80
343123340040	8540 EDISON ST NE	JUELICH, GENE JOHN	1	$4,121.80	$4,121.80
343123340041	8536 EDISON ST NE	JAMA, IBRAHIM	1	$4,121.80	$4,121.80
343123340045	8511 EDISON ST NE	RAJENDRAN, PARAMESVARAN	1	$4,121.80	$4,121.80
343123340067	8620 EDISON ST NE	ZAMORA, ABRAHAM	1	$4,121.80	$4,121.80
343123340068	8634 EDISON ST NE	XIAO, FEI	1	$4,121.80	$4,121.80
343123340078	8532 EDISON ST NE	PENTA, WENDY	1	$4,121.80	$4,121.80
343123340090	8520 EDISON ST NE	EDWARDS-BROWNSON, KAYLA	1	$4,121.80	$4,121.80
343123340092	8650 EDISON ST NE	HOLT, ELMER LEON	1	$4,121.80	$4,121.80
		TOTAL:	23		$94,801.40

EXHIBIT NO. 2 - AREA 4 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$964,497.44	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$289,349.23				
TOTAL COST		$1,253,846.67				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$438,846.34**	**/**	**11256.1 LF**	**=**	**$38.99**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$38.99	**X**	**8619.9 LF**	**=**	**$336,089.90**	**/**	**98**	**=**	**$3,429.49**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
343123230001	9092 BATAAN ST NE	LOR, THONG	1	$3,429.49	$3,429.49
343123230007	9069 ZUMBROTA ST NE	EVERETT, SARAH L	1	$3,429.49	$3,429.49
343123230008	9055 ZUMBROTA ST NE	FADEL MOHAMED Y	1	$3,429.49	$3,429.49
343123230009	2715 90TH LN NE	ELZAGBY ELHAM	1	$3,429.49	$3,429.49
343123230010	2735 90TH LN NE	FITZPATRICK, KATHERINE	1	$3,429.49	$3,429.49
343123230011	2755 90TH LN NE	WINTERS, DAWN E	1	$3,429.49	$3,429.49
343123230012	2775 90TH LN NE	VANDEVEER, PAUL R	1	$3,429.49	$3,429.49
343123230013	2795 90TH LN NE	RHOADES MARILYN P	1	$3,429.49	$3,429.49
343123230014	9070 BATAAN ST NE	ELLINGSON, TINA	1	$3,429.49	$3,429.49
343123230035	9060 ZUMBROTA ST NE	SCHMITT, HEATHER LEE	1	$3,429.49	$3,429.49
343123230036	9052 ZUMBROTA ST NE	MALECHA DOREEN L	1	$3,429.49	$3,429.49
343123230037	2720 90TH LN NE	DUONG XUYEN VAN & LY THUY BICH	1	$3,429.49	$3,429.49
343123230038	2738 90TH LN NE	KRIPOTOS, JAMES M	1	$3,429.49	$3,429.49
343123230039	2760 90TH LN NE	KHAN KHADEER & INAYATH	1	$3,429.49	$3,429.49
343123230040	2778 90TH LN NE	GOMEZ, JENNIFER R	1	$3,429.49	$3,429.49
343123230041	2796 90TH LN NE	HARDER, STEVEN R	1	$3,429.49	$3,429.49
343123230042	2800 90TH LN NE	AKIN, MATTHEW J	1	$3,429.49	$3,429.49
343123230054	8902 YANCY ST NE	MCKELLAR, KYLE	1	$3,429.49	$3,429.49
343123230055	8916 YANCY ST NE	JOHNSON, INEZ T	1	$3,429.49	$3,429.49
343123230056	8930 YANCY ST NE	GUSE TODD P	1	$3,429.49	$3,429.49
343123230057	8940 YANCY ST NE	ASHLEY, MICHELLE	1	$3,429.49	$3,429.49
343123230058	8950 YANCY ST NE	BOWMAN, CYNTHIA	1	$3,429.49	$3,429.49
343123230059	8960 ZUMBROTA ST NE	SHIFFLETT MICHAEL A & SHERRY K	1	$3,429.49	$3,429.49
343123230060	8952 ZUMBROTA ST NE	KARNICK DREW A & JULIE R	1	$3,429.49	$3,429.49
343123230061	8967 ZUMBROTA ST NE	FLINK ANTHONY J & DARCY D	1	$3,429.49	$3,429.49
343123230062	8963 ZUMBROTA ST NE	EATHERTON RANDOLPH D & CARLA J	1	$3,429.49	$3,429.49
343123230063	2731 89TH LN NE	SCHIBILLA, MARK	1	$3,429.49	$3,429.49
343123230064	2743 89TH LN NE	JOHNSON STEVEN A & SHAWN K	1	$3,429.49	$3,429.49
343123230065	2757 89TH LN NE	VANDE KAMP PHILIP & SUSAN	1	$3,429.49	$3,429.49
343123230066	2785 89TH LN NE	HOFFMAN THOMAS J & BRENDA	1	$3,429.49	$3,429.49
343123230067	2823 89TH LN NE	MEDHANIE, AMANUEL G	1	$3,429.49	$3,429.49
343123230068	8903 YANCY ST NE	SMITH SCOTT M & MICHELE L	1	$3,429.49	$3,429.49
343123230069	8915 YANCY ST NE	UNRUH LANCE A & KIMBERLY J	1	$3,429.49	$3,429.49
343123230070	8929 YANCY ST NE	VAN RYBROEK, CHRISTOPHER JOHN	1	$3,429.49	$3,429.49
343123230071	2702 89TH LN NE	IDOW, ABDIHAKIM H	1	$3,429.49	$3,429.49

EXHIBIT NO. 2 - AREA 4 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$964,497.44	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$289,349.23				
TOTAL COST		$1,253,846.67				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$438,846.34**	**/**	**11256.1 LF**	**=**	**$38.99**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$38.99	**X**	**8619.9 LF**	**=**	**$336,089.90**	**/**	**98**	**=**	**$3,429.49**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
343123230072	2716 89TH LN NE	BOHL SCOTT J & LYNN M	1	$3,429.49	$3,429.49
343123230073	2730 89TH LN NE	HOVLAND, JODY	1	$3,429.49	$3,429.49
343123230074	2744 89TH LN NE	GORSKI DEBORAH M	1	$3,429.49	$3,429.49
343123230075	2758 89TH LN NE	KLESK DANIEL R & KAREN M	1	$3,429.49	$3,429.49
343123230076	2772 89TH LN NE	STEINECK PEGGY M & GRAY GERALD	1	$3,429.49	$3,429.49
343123230077	2786 89TH LN NE	MILLER GERALD J & COUCH R J	1	$3,429.49	$3,429.49
343123230078	2808 89TH LN NE	DOOLEY JOSEPH J & CHERYL D	1	$3,429.49	$3,429.49
343123230080	8975 ZUMBROTA ST NE	ALIC, SENADA	1	$3,429.49	$3,429.49
343123230081	8973 ZUMBROTA ST NE	PORTLANCE DOUGLAS K & KIMBERLY	1	$3,429.49	$3,429.49
343123230082	8971 ZUMBROTA ST NE	BOTKER, JORDAN L	1	$3,429.49	$3,429.49
343123230083	2723 ZUMBROTA CIR NE	ANDERSON TERRANCE L & HARRIET	1	$3,429.49	$3,429.49
343123230084	2739 ZUMBROTA CIR NE	HPA BORROWER 2018-1 ML LLC	1	$3,429.49	$3,429.49
343123230085	2740 ZUMBROTA CIR NE	ROBINSON, COREY	1	$3,429.49	$3,429.49
343123230086	2726 ZUMBROTA CIR NE	CROWTHER, ROBERT J	1	$3,429.49	$3,429.49
343123230087	8969 ZUMBROTA ST NE	STARKSON, MICHELLE	1	$3,429.49	$3,429.49
343123240006	9093 BATAAN ST NE	LUECK, CHRISTOPHER T	1	$3,429.49	$3,429.49
343123240007	9069 BATAAN ST NE	BABACA HASAN & REDZIFE	1	$3,429.49	$3,429.49
343123240008	9051 BATAAN ST NE	PECHONICK, JENNIFER	1	$3,429.49	$3,429.49
343123240009	2829 90TH LN NE	PETERS MARK S	1	$3,429.49	$3,429.49
343123240010	2841 90TH LN NE	KRANTZ, CARISSA	1	$3,429.49	$3,429.49
343123240011	2853 90TH LN NE	DINH, TUYNH V	1	$3,429.49	$3,429.49
343123240012	2865 90TH LN NE	XU, GUO BAO	1	$3,429.49	$3,429.49
343123240013	2877 90TH LN NE	GANION, VINCENT P	1	$3,429.49	$3,429.49
343123240025	2935 90TH LN NE	HOFMANN KEITH E & JESSICA K	1	$3,429.49	$3,429.49
343123240026	2912 89TH CT NE	PUTZ, ALISON L	1	$3,429.49	$3,429.49
343123240027	2924 89TH CT NE	CHIRINOS JOSE L & CARMEN S	1	$3,429.49	$3,429.49
343123240028	2948 89TH CT NE	KWONG PETER T & KIMBERLY T	1	$3,429.49	$3,429.49
343123240029	2943 89TH CT NE	WINTERS LYNN C & SCOTT L	1	$3,429.49	$3,429.49
343123240030	2933 89TH CT NE	SINGH, JENEATTA L	1	$3,429.49	$3,429.49
343123240031	2923 89TH CT NE	THEIS PAUL M & ALISA L	1	$3,429.49	$3,429.49
343123240032	2911 89TH CT NE	ESTERS, SANDRA L	1	$3,429.49	$3,429.49
343123240033	2899 90TH LN NE	PHAN, PHUONG	1	$3,429.49	$3,429.49
343123240034	2889 90TH LN NE	VANG, SOU	1	$3,429.49	$3,429.49
343123240035	2806 90TH LN NE	BUTZLER JOHN M & LEAH N	1	$3,429.49	$3,429.49
343123240036	2814 90TH LN NE	PALVERE DANIEL B & VICKY E	1	$3,429.49	$3,429.49

EXHIBIT NO. 2 - AREA 4 PROPOSED ASSESSMENT ROLL
SINGLE FAMILY RESIDENTIAL PROPERTIES

ASSESSMENT RATE BREAKDOWN

CONSTRUCTION COSTS*		$964,497.44	*(CONSTRUCTION COST DOES NOT INCLUDE WATER MAIN OR SANITARY SEWER COSTS)			
ADMINISTRATIVE COSTS		$289,349.23				
TOTAL COST		$1,253,846.67				ASSESSMENT RATE PER FRONT FOOT
	RESIDENTIAL RATE	x35%		TOTAL FRONT FOOTAGE		
ASSESSABLE COST		**$438,846.34**	**/**	**11256.1 LF**	**=**	**$38.99**

RESIDENTIAL PROPERTY

ASSESSMENT RATE		SINGLE FAMILY RESIDENTIAL ASSESSABLE FOOTAGE		AMOUNT ASSESSED		ASSESSABLE RESIDENTIAL LOT UNITS		ASSESSMENT RATE PER RESIDENTIAL LOT UNIT
$38.99	**X**	**8619.9 LF**	**=**	**$336,089.90**	**/**	**98**	**=**	**$3,429.49**

PIN	PROPERTY ADDRESS	PROPERTY OWNER	ASSESSABLE RESIDENTIAL LOT UNITS	ASSESSMENT RATE PER RESIDENTIAL LOT UNIT	PROPOSED ASSESSMENT
343123240037	2828 90TH LN NE	MATZEK, ANNE ELIZABETH	1	$3,429.49	$3,429.49
343123240038	2842 90TH LN NE	HAWLEY KRISTIN J & MARY ANN	1	$3,429.49	$3,429.49
343123240039	2856 90TH LN NE	KHAN, AQEELA	1	$3,429.49	$3,429.49
343123240040	2870 90TH LN NE	SCHNEIDER STEVEN C & NANCY K	1	$3,429.49	$3,429.49
343123240041	2884 90TH LN NE	NELSON JR, MARSHALL E	1	$3,429.49	$3,429.49
343123240042	2892 90TH LN NE	JOHNS, MARK	1	$3,429.49	$3,429.49
343123240075	2843 89TH LN NE	BONDAREVA-ZUEHLKE, IRINA V	1	$3,429.49	$3,429.49
343123240076	8962 BATAAN CT NE	JORDAHL, SARAH	1	$3,429.49	$3,429.49
343123240077	8972 BATAAN CT NE	HABEDANK, JOEL	1	$3,429.49	$3,429.49
343123240078	8982 BATAAN CT NE	ARAYA, KIDEST	1	$3,429.49	$3,429.49
343123240079	8992 BATAAN CT NE	TURNQUIST STEVEN J & ANDREA E	1	$3,429.49	$3,429.49
343123240080	8993 BATAAN CT NE	STRECKER, JULIE M	1	$3,429.49	$3,429.49
343123240081	8983 BATAAN CT NE	ABUSARA, MANAL	1	$3,429.49	$3,429.49
343123240082	8963 BATAAN CT NE	RUSINAK, PATRICK W	1	$3,429.49	$3,429.49
343123240083	2889 89TH LN NE	ANDERLEY, SUSAN M	1	$3,429.49	$3,429.49
343123240084	2899 89TH LN NE	TWOMEY, MARY F	1	$3,429.49	$3,429.49
343123240085	2909 89TH LN NE	NELSON, ADAM M	1	$3,429.49	$3,429.49
343123240086	2820 89TH LN NE	PRZYBYLA ERIC L & DARLA J	1	$3,429.49	$3,429.49
343123240087	2832 89TH LN NE	NELSON BRYAN R & SANDRA L	1	$3,429.49	$3,429.49
343123240088	2842 89TH LN NE	PARIZEK JOHN W & KAREN J	1	$3,429.49	$3,429.49
343123240089	2852 89TH LN NE	KASPER, BRANDON	1	$3,429.49	$3,429.49
343123240090	2862 89TH LN NE	MACKEY ROBERT W & DENISE K	1	$3,429.49	$3,429.49
343123240091	2872 89TH LN NE	HOLETZ, JI Y	1	$3,429.49	$3,429.49
343123240092	2882 89TH LN NE	PETERSON DOUGLAS J & LOUISE H	1	$3,429.49	$3,429.49
343123240093	2892 89TH LN NE	ADAN, OMAR IBRAHIM	1	$3,429.49	$3,429.49
343123240094	2902 89TH LN NE	THUNBORG, FREDERICK L	1	$3,429.49	$3,429.49
343123240095	2912 89TH LN NE	PHOYDOUANGDY PHAYSANE & A	1	$3,429.49	$3,429.49
343123240096	2920 89TH LN NE	GASSAR, RIM YASMINA	1	$3,429.49	$3,429.49
		TOTAL:	98		$336,090.02

APPENDIX D

Pavement Investigation Report

PAVEMENT DESIGN REPORT

SOUTHEAST AREA STREET RECONSTRUCTION

CITY OF BLAINE, ANOKA COUNTY, MINNESOTA

NOVEMBER 18, 2022

Prepared for:
City of Blaine
10801 Town Square Drive NE
Blaine, MN 55449

wsb

CERTIFICATION

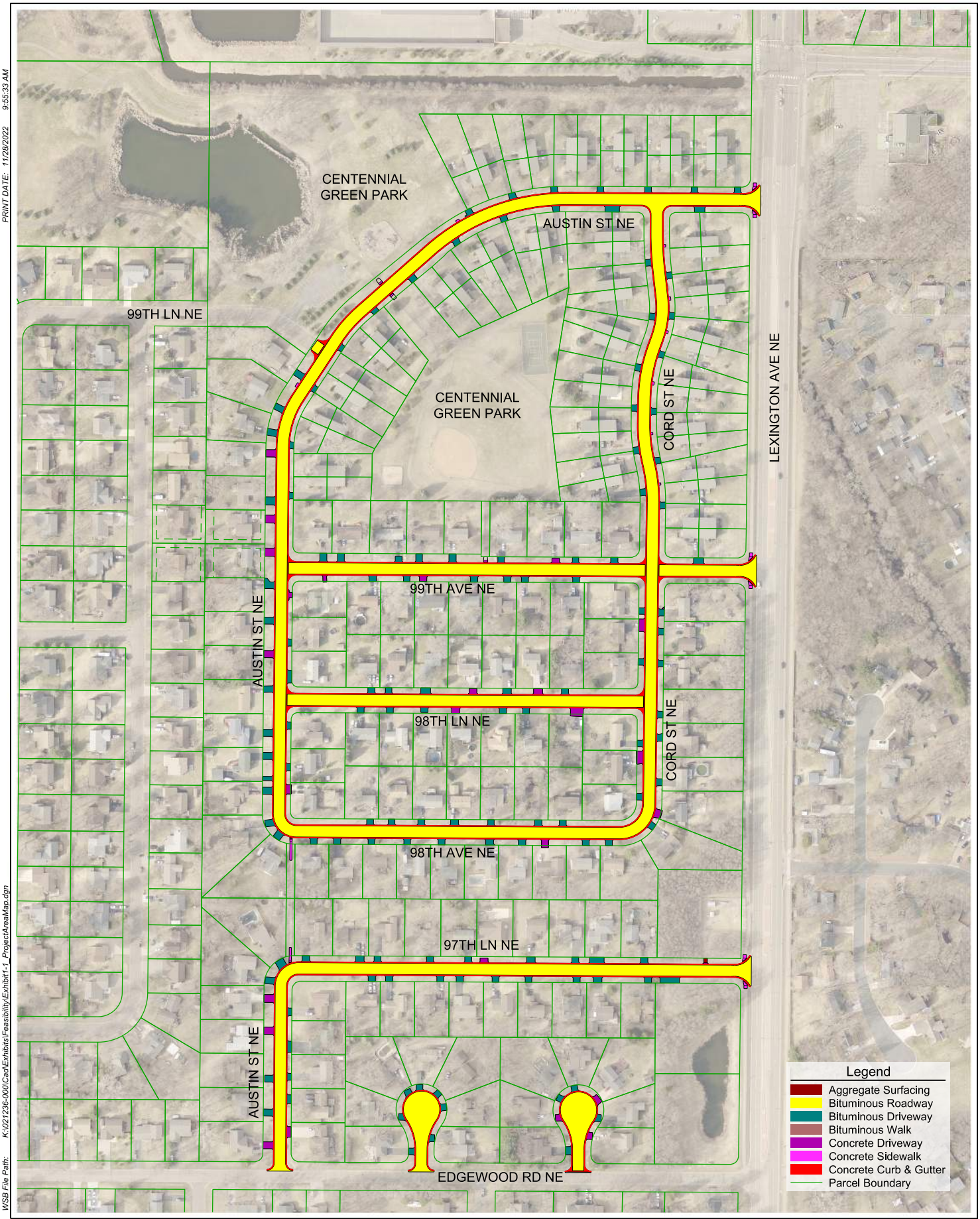
I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Minnesota.

Nicholas E. Hentges, PE

Date: November 18, 2022 License No.: 44620

TABLE OF CONTENTS

PROJECT MAP



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BlaineMN.gov

Exhibit 1: Area 1 Project Area Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

0 150 300

SCALE IN FEET

wsb

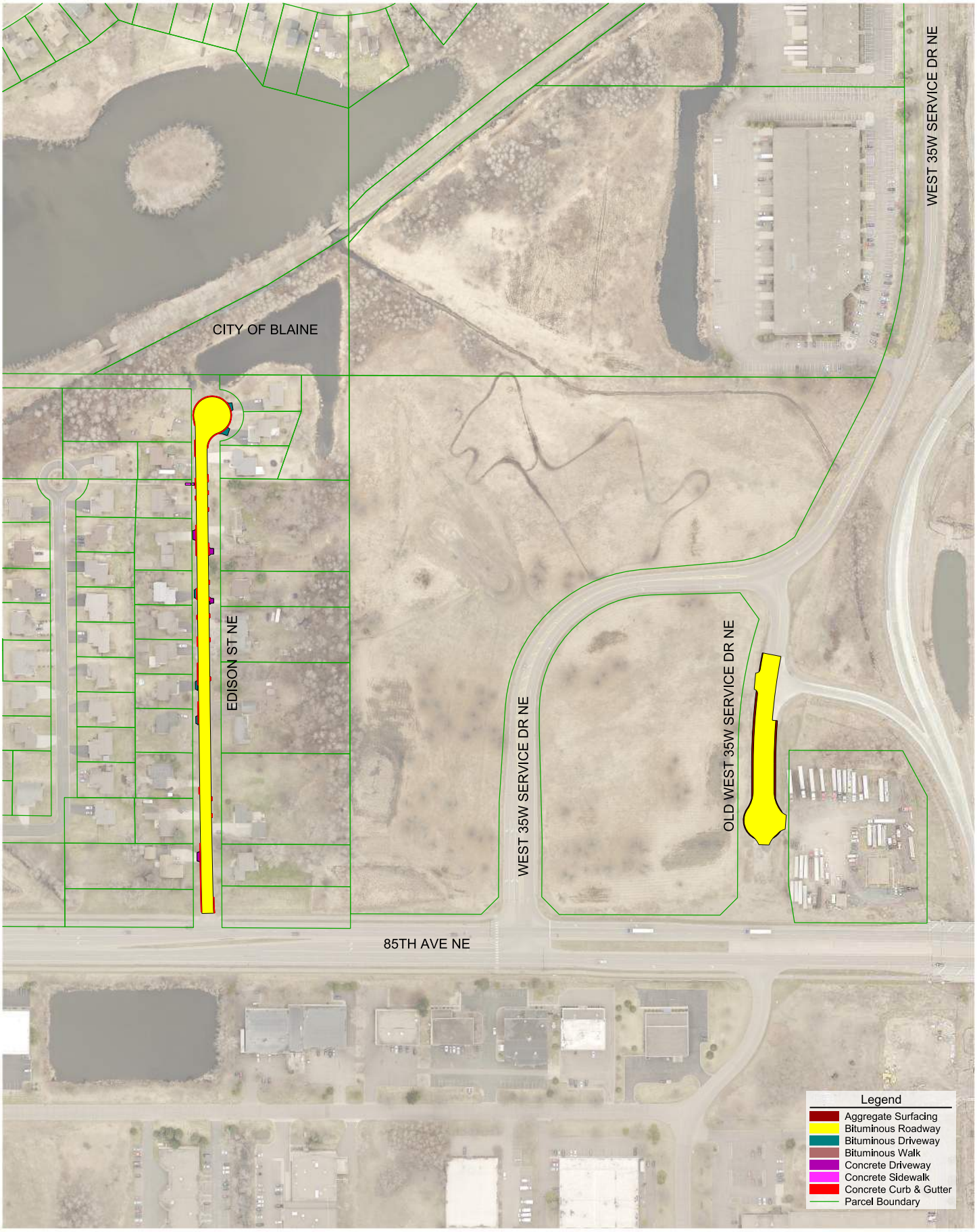

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Exhibit 1: Area 2 & 3 Project Area Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

0 150 300

SCALE IN FEET

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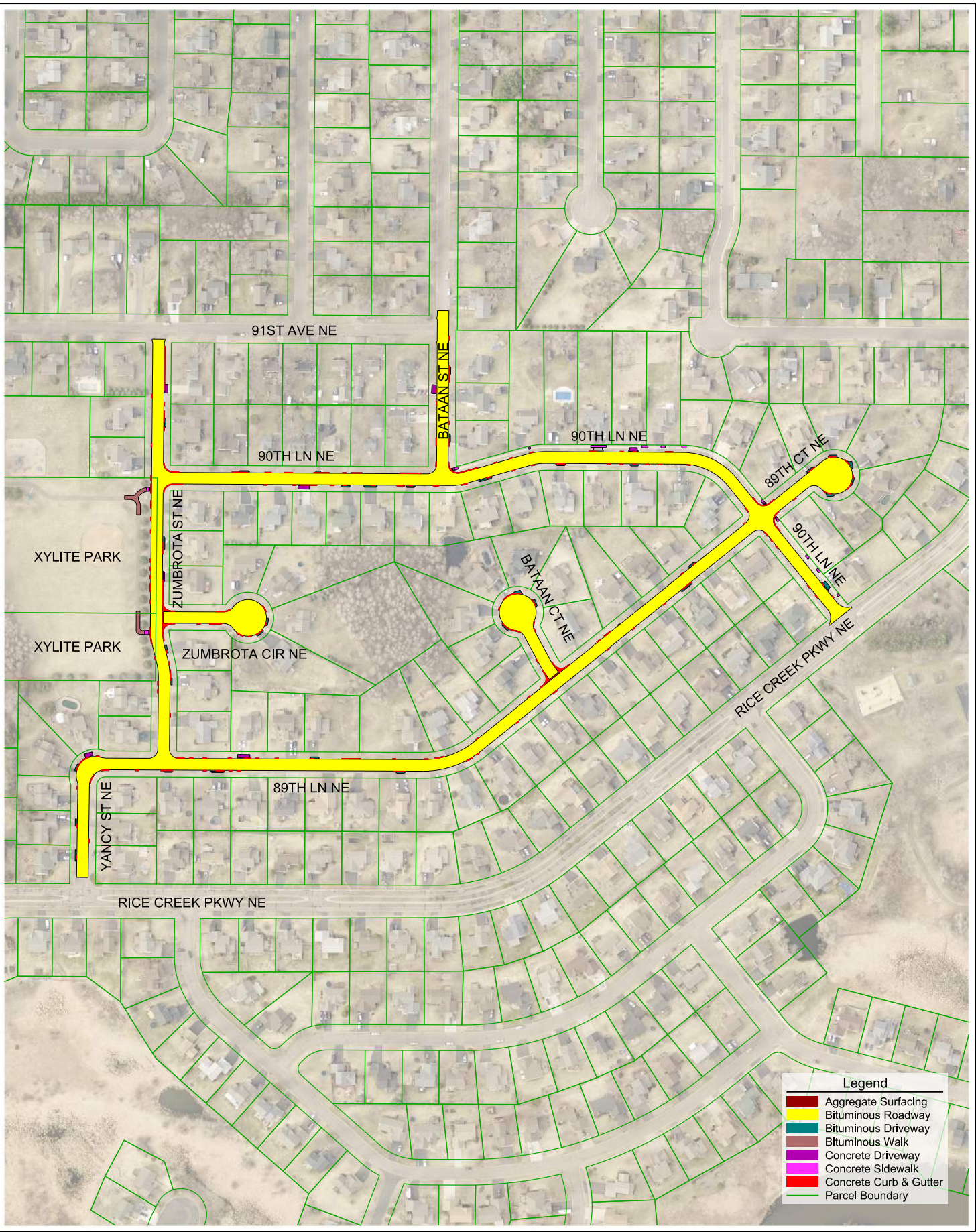

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BlaineMN.gov

Exhibit 1: Area 4 Project Area Map

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

N

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SCALE IN FEET

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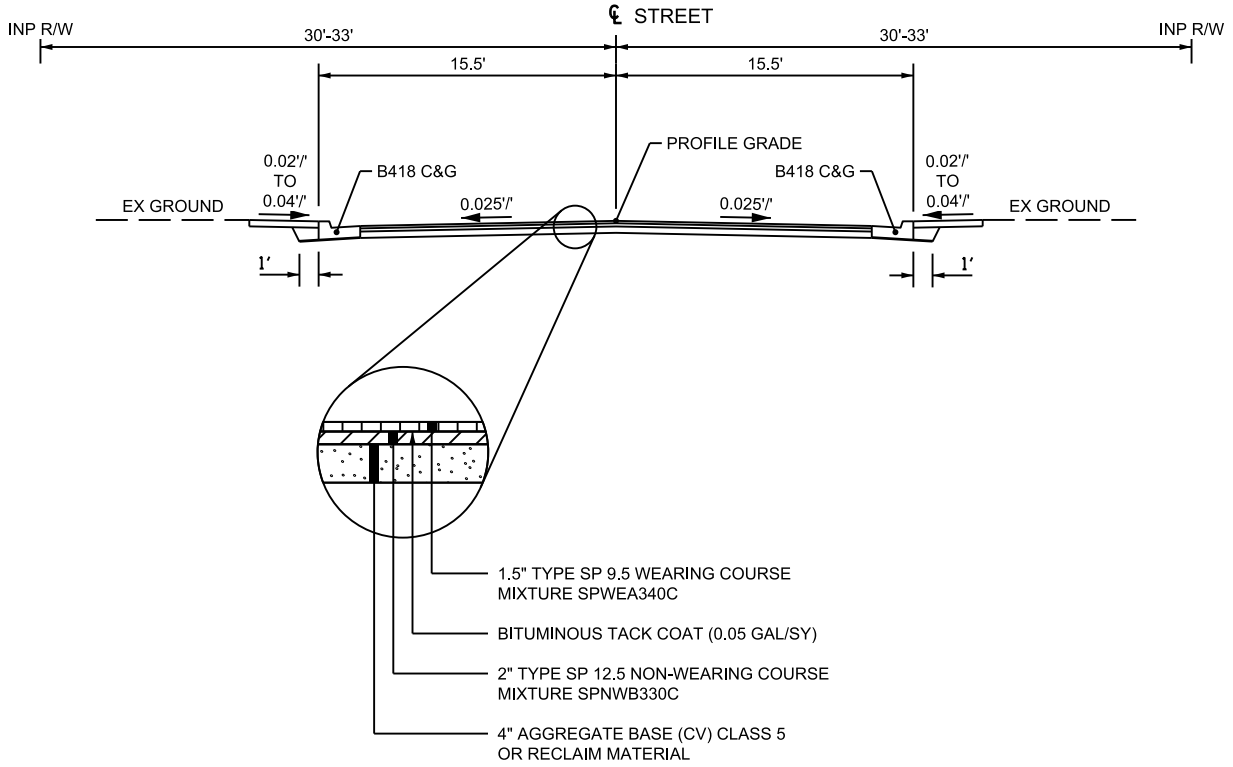
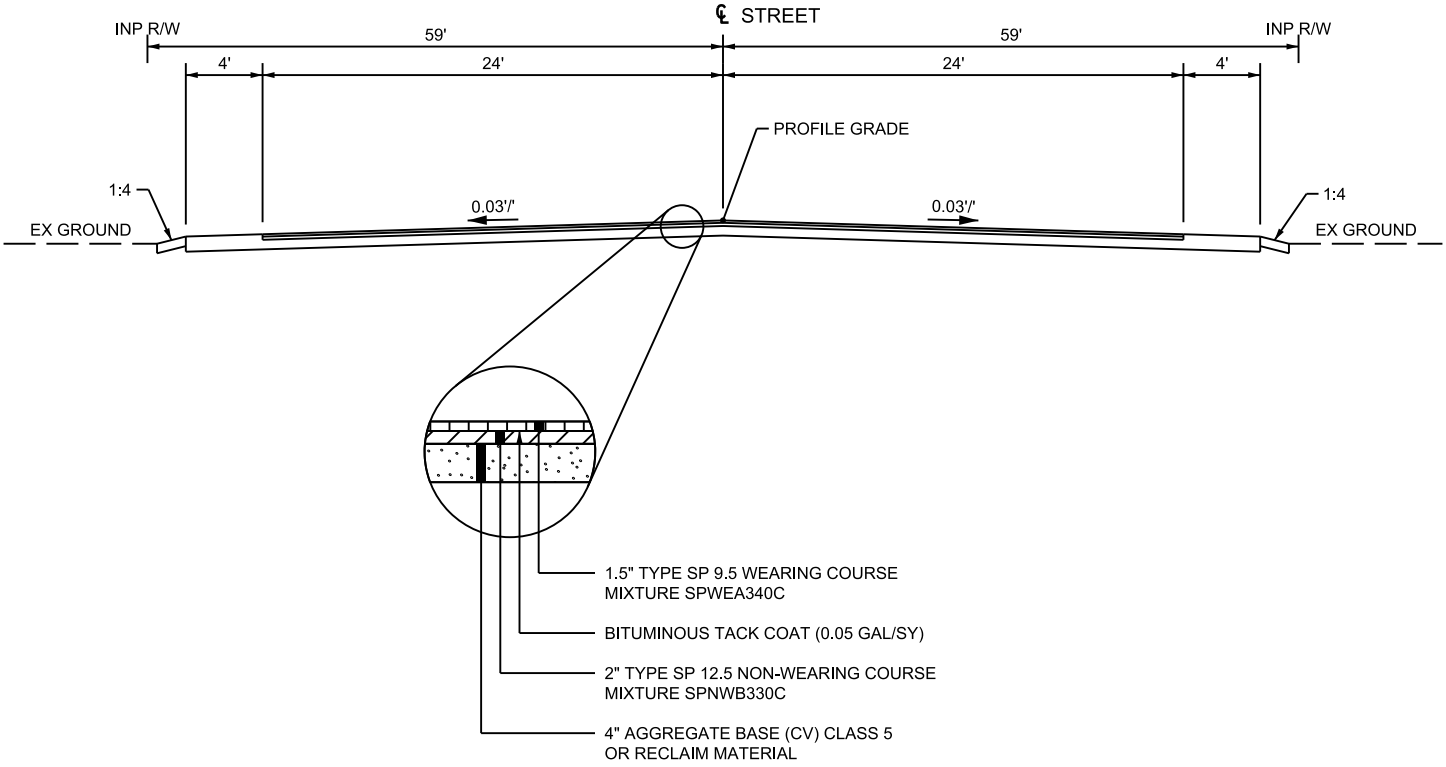
TYPICAL SECTIONS

Area 1 Typical Section



Area 2 Typical Section



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BlaineMN.gov

Exhibit 2: Typical Sections

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

0 5 10
SCALE IN FEET

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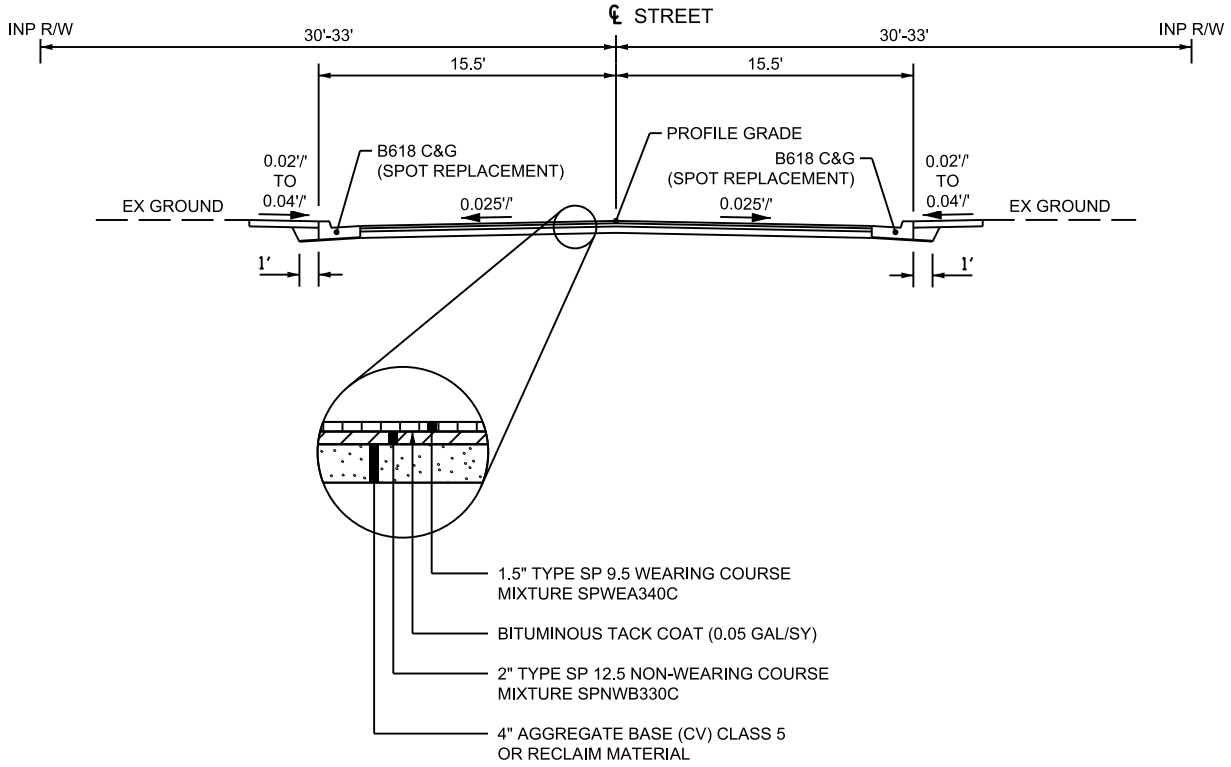
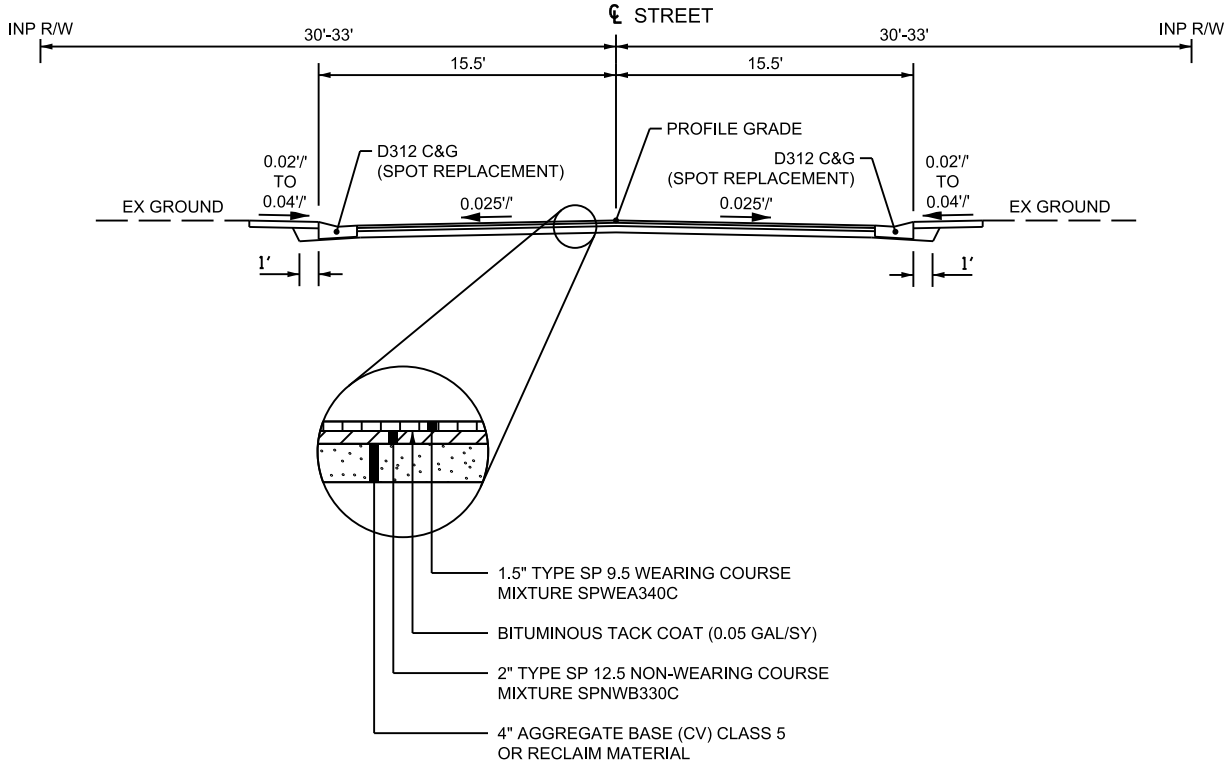
Area 3 Typical Section



Area 4 Typical Section



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BlaineMN.gov

Exhibit 2: Typical Sections

Southeast Area Street Reconstruction
Feasibility Assessment Report

City of Blaine, Minnesota

SCALE 0 5 10 IN FEET

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PAVEMENT DESIGN

DESIGN SUMMARY
ESAL TRAFFIC FORECAST CALCULATOR
BITUMINOUS PAVEMENT DESIGN

Existing Road Characteristics

The following streets were constructed in 1980: **Austin Street** from Edgewood Road to 97th Lane; **97th Lane** from Austin Street to Lexington Avenue; **Edgewood Road cul-de-sac** (4023-4083); **Edgewood Road cul-de-sac** (4103-4163); **Austin Street** from 98th Avenue to 99th Avenue; **Cord Street** from 99th Avenue to Austin Street; **99th Avenue** from Austin Street to Lexington Avenue. These streets were constructed with a pavement section consisting of approximately 2-inches of bituminous over 4-inches of aggregate base with surmountable curb. The above streets received a 1.5-inch mill and bituminous overlay in 2000.

The following streets were constructed in 1982: **98th Avenue** from Austin Street to Cord Street; **98th Lane** from Austin Street to Cord Street; **Cord Street** from 98th Avenue to 99th Avenue; **Austin Street** from 99th Avenue to Lexington Avenue. These streets were constructed with a pavement section consisting of approximately 2-inches of bituminous over 4" of aggregate base with surmountable curb. The above streets received a 1.5-inch mill and bituminous overlay in 2000.

The West 35W Service Drive was constructed in the late 1980s. The current pavement section consists of approximately 5-inches of bituminous over 5-inches of recycled bituminous material, with some areas containing 6-inches of aggregate base below the recycled material. Construction records for this roadway are not available to determine the date of original construction or the dates of subsequent maintenance.

Edison Street was constructed in 1999 with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with B618 curb and gutter. No pavement rehabilitation has been performed to date on Edison Street.

The following streets were constructed in 1997: **Zumbrota Street** from 90th Lane to 91st Avenue; **Bataan Street** from 90th Lane to 91st Avenue; **90th Lane** from Zumbrota Street to Bataan Street. These streets were constructed with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with D312 curb and gutter. No pavement rehabilitation has been performed to date on the above streets.

The following streets were constructed in 1999: **90th Lane** from Bataan Street to Rice Creek Parkway; **89th Court**; **89th Lane** from Yancy Street to 90th Lane; **Yancy Street** from Rice Creek Parkway to 89th Lane; **Zumbrota Street** from 89th Lane to 90th Lane; **Bataan Court**. These streets were constructed with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with D312 curb and gutter. No pavement rehabilitation has been performed to date on the above streets.

Zumbrota Circle was constructed in 2002 with a pavement section consisting of approximately 3-inches of bituminous over 4-inches of aggregate base with D312 curb and gutter. No pavement rehabilitation has been performed to date on Zumbrota Circle.

City Standard Reconstruction Pavement Section

Material		Thickness (in)	Designation
Bituminous	Wear Course	1.5	SPWEA340C
	Non-Wear Course	2.0	SPNWB330C
Aggregate Base		4.0	Class 5

Proposed Pavement Section

Material		Thickness (in)	Designation
Bituminous	Wear Course	1.5	SPWEA340C
	Non-Wear Course	2.0	SPNWB330C
Aggregate Base		4.0	Class 5 or Reclaim Material

State Aid 10 Ton ESAL Traffic Forecast Calculator

This ESAL calculator is for use with default Heavy Commerical Traffic values; click "User Defined Traffic Values" sheet below if you wish to enter your own Heavy Commercial Traffic values.

Instructions: All yellow boxes require an input value.
Dropdown choices are provided for Base Year (C18), Number of Lanes (C19), and Urban or Rural (C21).
You must click on cells C18, C19, and C21 to access the dropdown choices.

General Information

Date	2022/11/11	
Forecast Performed by	WSB	
Name of County or City	CITY OF BLAINE	
Project Number	CP 23-08	
Project Description	SOUTHEAST AREA STREET RECONSTRUCTION	
Route Number	VARIOUS	
Base Year (i.e. opening to traffic)	2023	
Number of Lanes (total both directions)	2 = typical 2 lane	
Current AADT		
Urban or Rural	Urban	
Historical AADT (enter a minimum of two years)	**Year**	**AADT**
Enter oldest traffic data here	2023	500
Enter second oldest traffic data here	2043	550
Enter third oldest traffic data here		
Enter fourth oldest traffic data here		
Base Year AADT	2023	500
20-Year AADT	2043	550
35-Year AADT	2058	588
Growth Rate	0.50%	

Vehicle Type	Vehicle Class %	ESAL Factors Flexible	ESAL Factors Rigid
2AX-6TIRE SU	1.37%	0.25	0.24
3AX+SU	0.06%	0.58	0.85
3AX TST	0.09%	0.39	0.37
4AX TST	0.18%	0.51	0.53
5AX+TST	1.45%	1.13	1.89
TR TR, BUSES	0.67%	0.57	0.74
TWIN TRAILERS	0.00%	2.40	2.33
Total	**3.83%**	**NA**	**NA**

20-Year Flexible Forecast (10 Ton) = 57,000
20-Year Rigid Forecast (10 Ton) = 85,000
35-Year Flexible Forecast (10 Ton) = 101,000
35-Year Rigid Forecast (10 Ton) = 150,000

Note: This ESAL Calculator provides reasonable estimation of ESAL's based on accurate AADT values. It is limited to an AADT value of 20,000. For roadways exceeding an AADT of 20,000, it is recommended to use the MnDOT ESAL Forecasting Tool found on MnDOT's Pavement Design web page at:
http://www.dot.state.mn.us/materials/pvmtdesign/software.html

Revised: 5/6/2020

Flexible Pavement Design, R-Value Method

Ver. 1.2 **For Bituminous Pavement With Aggregate Base**

Inputs

20 Yr Design Lane BESALs =	150,000
Design R-value =	50.0

GE Values from R-Value Chart

Minimum Bit (GE) =	7.00
Min. Agg. Base (GE) =	3.00
Total Required GE =	10.00

Project Number

CP 23-08

Designer

WSB

Date

11/11/2022

DEPARTMENT OF TRANSPORTATION

Calculated Pavement Thickness to Meet GE Requirement

		Thickness (in)	GE	Layer GE
(2360) Wearing Course		3.50	2.25	7.88
(2360) Non-wearing Course		0.00	2.25	0.00
Bituminous Total		3.50	2.25	7.88
		Thickness (in)	GE	Layer GE
Aggregate Base	Class 5, 5Q or 6	3.00	1.00	3.00
Sub Base	Class 3 or 4	0.00	0.75	0.00
Select Granular		0.00	0.50	0.00
	Total	6.50	Total	10.88
	Required*	12.50	Required	10.00

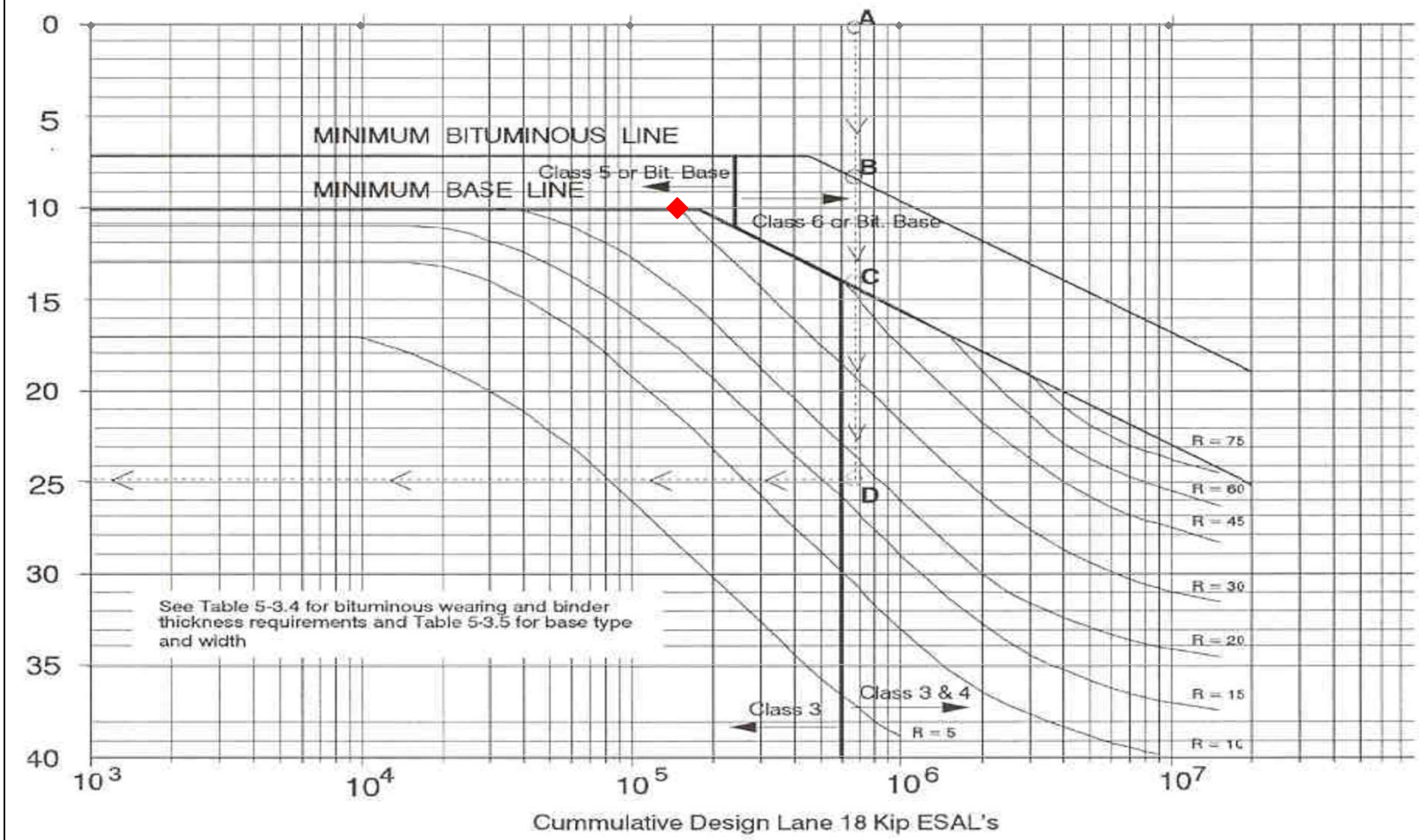
Proposed Pavement Thickness

New Bituminous		Thickness (in)	GE	Layer GE
Wearing Course	Superpave HMA [2360]	1.5	2.25	3.38
Non-wearing Course	Superpave HMA [2360]	2.0	2.25	4.50
New Bituminous Total		3.5		7.88
Left In-place Bituminous *1		Thickness (in)	GE	Layer GE
In-Place Bituminous	Plant Mix HMA [2350(HV & MV)]		2.00	0.00
Condition *2	Good			
	Class	Thickness (in)	GE	Layer GE
Aggregate Layer 1	Full-Depth Reclamation (FDR) *3	4.0	1.00	4.00
Aggregate Layer 2			0.00	0.00
Aggregate Layer 3			0.00	0.00
Select Granular			0.50	0.00
Aggregate Total		4.0		4.00
	Total	7.50	Total	11.88
			Required	10.00

Messages

Total GE: GOOD
Bituminous Thickness: GOOD
Total Aggregate Base Thickness: GOOD

Last Edited 6/5/19



BITUMINOUS PAVEMENT DESIGN CHART (AGGREGATE BASE)

APPENDIX A

DESIGN CRITERIA 2360 MIXTURE DESIGN CODES
MnDOT PG BINDER GUIDELINES - MSCR

Design Criteria 2360

Rev. 03/06/2018

Mixture Designation Code	
Mixture Course	**Code Format**
Non Wear (4" below pavement surface)**	SPNW **(1)* (2)*** 30 **(3)***
Wear (Top 4" of pavement)**	SPWE **(1)* (2)*** 40 **(3)***
Shoulder Wear & Non-Trunk Highway Low Volume Wear	SPWE **(1)* (2)*** 30 **(3)***
Stone Matrix Asphalt (SMA) – Spec 2365	SMWEE640H

***** Select (1) Aggregate Size; (2) Traffic Level; and (3) Asphalt Binder Grade as shown below. See Mixture Designation Example. WE=wear; NW=non-wear

**May replace 4" with 3" for non-trunk highway with traffic levels < 3 million ESAL's.

(1) Aggregate size. Recommended minimum lift thickness is also shown:

Size A (**-1/2") SP 9.5** – 1 ½" minimum
Size B (**-3/4") SP 12.5** – 2" minimum
Size C (**-1") SP 19.0** – 3" minimum
Size D (**-3/8") SP 4.75** – 3/4" minimum

a. The **A** gradation provides a "finer" pavement surface. Select this aggregate size if you are concerned about coarseness of the driving surface or segregation of material during placement. It is only necessary to specify **A** for the final wear lift, aggregate size **B** can be used for all underlying lifts. Except for SMA and unless otherwise designated in the Special Provisions, the Contractor has the option to supply recycled mixture. With the approval of the Engineer, the Contactor may supply a gradation with a smaller maximum aggregate size than that specified, i.e. size A in lieu of size B.

(2) Traffic Level: Select Levels 2-6 based on ESAL's as shown in example below.

a. For slow traffic consider selecting a higher mix type (Traffic Level) and/or higher high temperature binder grade. For shoulders where traffic is allowed consider selecting a higher mixture type (Traffic Level).
b. Use the same Traffic Level for Wear and Non-Wear mixture.

(3) Asphalt Binder Grade:

a. For mainline paving select the asphalt binder grade from the most current PG Guidelines. See Design Section on Bituminous Office Webpage.
b. For shoulders where traffic is allowed, generally, use the same binder grade as the mainline.
c. For shoulders where traffic is prohibited select either PG 52S - 34 or PG 58S - 28 by matching the mainline low PG number. **I.E. Mainline PG 58H - 28=> Shoulder PG 58S - 28**
d. For new construction including cold inplace recycle (CIR), reclaiming, and reconstruction, specify, PG 58_-34 in the wear (top 4") of the pavement structure.

Notes: 1) Typical Sections should delineate individual lifts/courses and thicknesses.
2) Include mixture designation codes and ride equation in contract special provisions.
3) Use SMA on final wearing surface only (1.5"-2" lift). Specify minimum PG 58V-28 (H) for SMA mixtures.

Mixture Designation Example: **SPWEB440E**

Type	Lift	Max Agg. Size	Traffic Level (ESAL's X 10^6)		Air Voids	Standard Binder Grades	
SP	***WE***	A (SP 9.5)	2	(<1.0 & Shld)	30 (3.0)	A = PG 52S -34	H = PG 58V - 28
SM	NW	***B (SP 12.5)***	3	(1 - 3)	***40*** (4.0)	B = PG 58S - 28	L = PG 64S - 22
		C (SP 19.0)	***4***	(3 - 10)		C = PG 58H - 34	M = PG 49S - 34
		D (SP 4.75)	5	(10 - 30)		***E = PG 58H - 28***	
		E (SMA)	6	(SMA)		F = PG 58V - 34	

The format for 2360 Pay Items are as follows:

2360.501 Type SP __._ _____Course Mixture (_, _)……English ton

An example of the pay item for the above mixture designation is:

2360.501 Type SP**12.5 Wearing** Course Mixture (**4**, **E**)……English ton

Note: Number in parenthesis denotes the traffic level and the letter denotes the PG grade.

November 12, 2015

MnDOT PG Binder Guidelines-MSCR

The new PG designations are different from the previous asphalt binder specification. Following AASHTO M332 (MSCR) the New PG grading designations for Minnesota will all be PG58, followed by traffic loading designation and minimum pavement design temperature. For example: PG58S-XX, PG58H-XX, PG58V-XX, and PG58E-XX.

S, H, V or E grade designations must be specified for standard, high, very high or extremely high traffic loading, respectively.

Type of Construction	Recommended Asphalt Binder for < 3 Million ESALs (20 yr)	Recommended Asphalt Binder for 3 - 10 Million ESALs (20 yr)	Recommended Asphalt Binder for > 10 Million ESALs (20 yr)
Overlay Wearing Mixture (Top 4")[3]	PG 58S-28	PG 58S-28[1]	PG 58H-28[1]
New Construction[2] Wearing Mixture (Top 4")[3]	PG 58H-34	PG 58H-34[1]	PG 58V-34[1]
All Non-Wear Mixture (Below 4" from Surface)	PG 58S-28		

Recommended Binder Grade for Shoulders:		
With Traffic	**With No Traffic**	**Next to Concrete Mainline and Concrete Curb and Gutter**
Generally, use the same binder grade as the mainline, but, not to exceed PG 58H-xx.	PG 58**S**-28 or PG 52S-34 (match the mainline low PG number)	PG 58S-28 or PG 58H-28

NOTES: When varying from these guidelines or for further clarification, consult the MnDOT Bituminous Office.

1. Selecting a higher PG grade and/or mixture type (traffic level), for higher ESALs within the category, will provide better resistance to rutting. Contact the Bituminous Engineer for guidance.
2. New construction includes: reconstruction, rubblization, CIR, reclaiming (FDR)
3. For Non-Trunk Highway with traffic levels <3 million ESAL, consider modifying the "top 4" criteria to top 3".
4. With concurrence of the Bituminous Office the designer may allow, by Special Provision, the Contractor's option to use PG 64S-22 on overlay construction when both of the following conditions are met:
    a. Overlay thickness 3" or less and,
    b. Average inplace crack/joint spacing 30ft. or less

The Special Provision shall limit the allowable RAP usage to 15% for mixtures specifying PG 64S-22.

Rules of Thumb

- Minimize the number of PG grades on any one project.
- The top 4" should be the same PG grade. Typically, specify PG xxx-34 for new construction. Typically, specify PG xxx-28 for overlay construction.
- Below 4" from the surface should be the same PG grade, typically, specify PG 58**S**-28.

Considerations

- For non-trunk highway with traffic levels < 3 million ESAL, consider modifying the top 4" criteria described under "Rules of Thumb" to top 3" criteria.
- For temporary construction (2 years or less) consider using PG 64S-22 when PG 58**H**-28 or PG 58**V**-34 is otherwise recommended.
- For special or unique design considerations contact the Bituminous Office.

Asphalt Binder Grade Designation

The PG Binder Grade letters should be used in all bituminous mixture designations, regardless of the specification number. These letters and PG Grade are listed below:

Binder Grades and Allowable Subtitutions

A = PG 52S-34
B = PG 58**S**-28 allowed as substitute for PG 58-28
C = PG 58H-34 allowed as substitute for PG 58-34 & PG 58-34(PMB)
E = PG 58H-28 allowed as substitute for PG 64-28 & PG 64-28(PMB)
F = PG 58V-34 allowed as substitute for PG 64-34 & PG 64-34(PMB)
H = PG 58V-28 allowed as substitute for PG 70-28 & PG 70-28(PMB)
I = PG 58E-34 allowed as substitute for PG 70-34
L = PG 64S-22
M = PG 49S-34

APPENDIX B

PAVEMENT INVESTIGATION REPORT

Pavement Investigation Report

To: Mr. Cody Sylvester
Project Engineer
City of Blaine
10801 Town Square Drive NE
Blaine, MN, 55449

Date: September 30, 2022

Re: Pavement Investigation
2023 - Southeast Area Street Reconstruction Project
R-021236-000
Blaine, Minnesota

WSB is pleased to submit this report detailing the results of our field pavement investigation and recommendations for pavement rehabilitation.

Our field investigation included documenting the existing pavement conditions, obtaining pavement cores, power or hand auger to depths of 24" and classify both the apparent aggregate base and the immediate underlying subbase or subgrade material.

Based on the field data obtained and summarized in our report, we are providing recommendations on reconstruction or rehabilitation techniques that we feel would be both viable and bring the most value to meet the project goals. The recommendations provided are based solely on our understanding of those goals therefore many other pavement rehabilitation techniques may also be feasible.

An aerial map with the approximate core locations and a summary table of the field data obtained at each location are presented in this report. Photographs of the pavement cores obtained, along with photographs of existing pavement surface conditions at those locations can be found in the **Appendix.**

We appreciate the opportunity to provide our professional services as part of your project and we look forward to working with you again.

If you have any questions about this report or the recommendations it contains, please don't hesitate to contact us.

Sincerely,

Matt Indihar, PE
Pavement Management
mindihar@wsbeng.com
218.341.3614

Sam Lundquist
Pavement Management
slundquist@wsbeng.com
612.214.5949

540 GATEWAY BLVD | BURNSVILLE, MN | 55337 | 952.737.4660 | WSBENG.COM

Project Understanding:

We understand the City of Blaine is seeking to improve their existing bituminous pavements in multiple neighborhoods through reconstruction or rehabilitation construction techniques. We understand our services were requested to aid the design team in preparing projects plans and specifications. The proposed pavement rehabilitation area includes streets that are included in the 2023 Southeast Area Street Reconstruction (see core location maps). We have assumed these residential streets receive standard daily traffic.

Field Exploration:

WSB performed the field exploration on September 15th, 16th, and 19th of 2022. A total of forty-nine (49) locations were cored and bored within the proposed pavement rehabilitation area. The approximate locations investigated and presented are shown in **Figure 1**.

Figure 1: Core Location Maps

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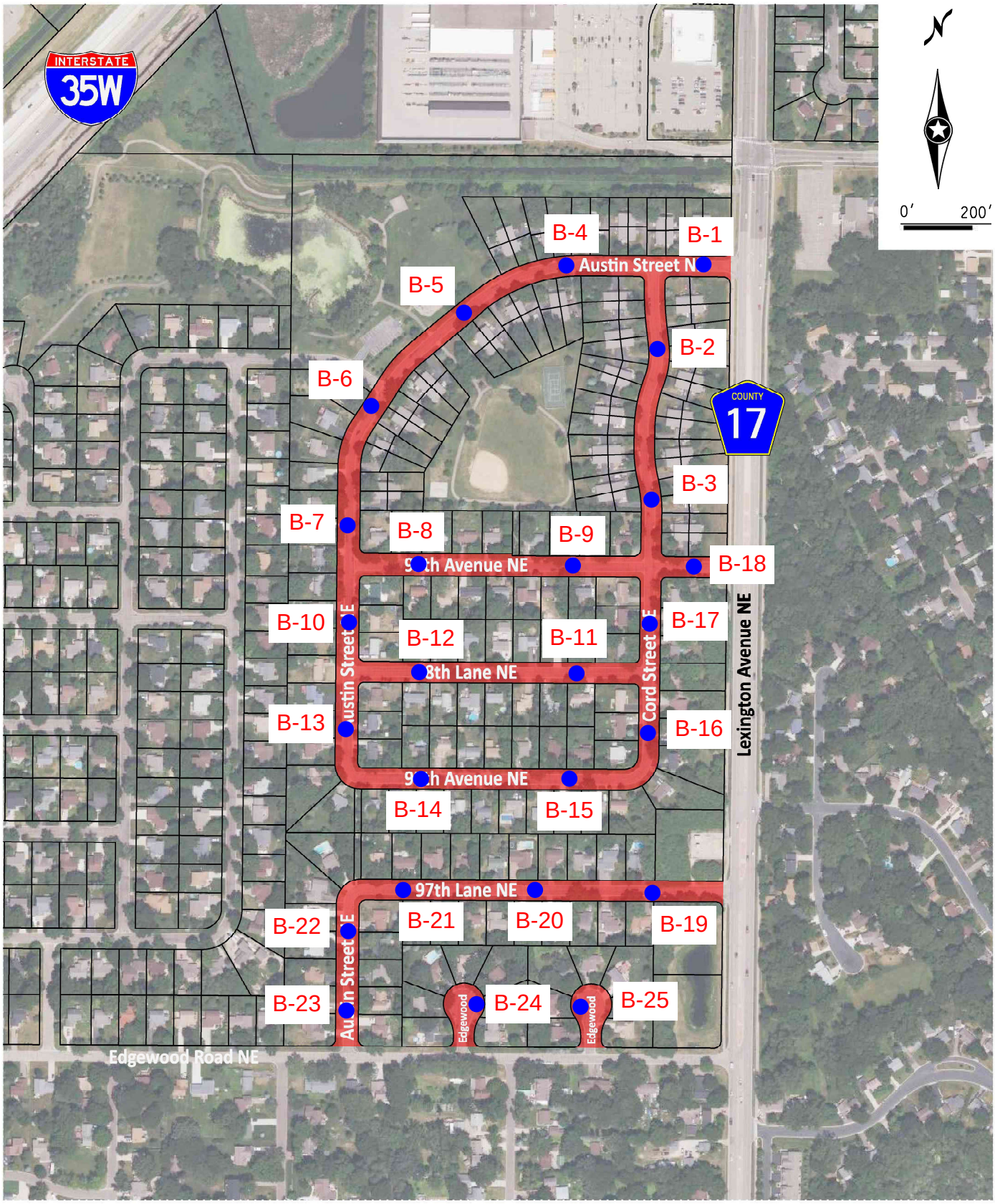


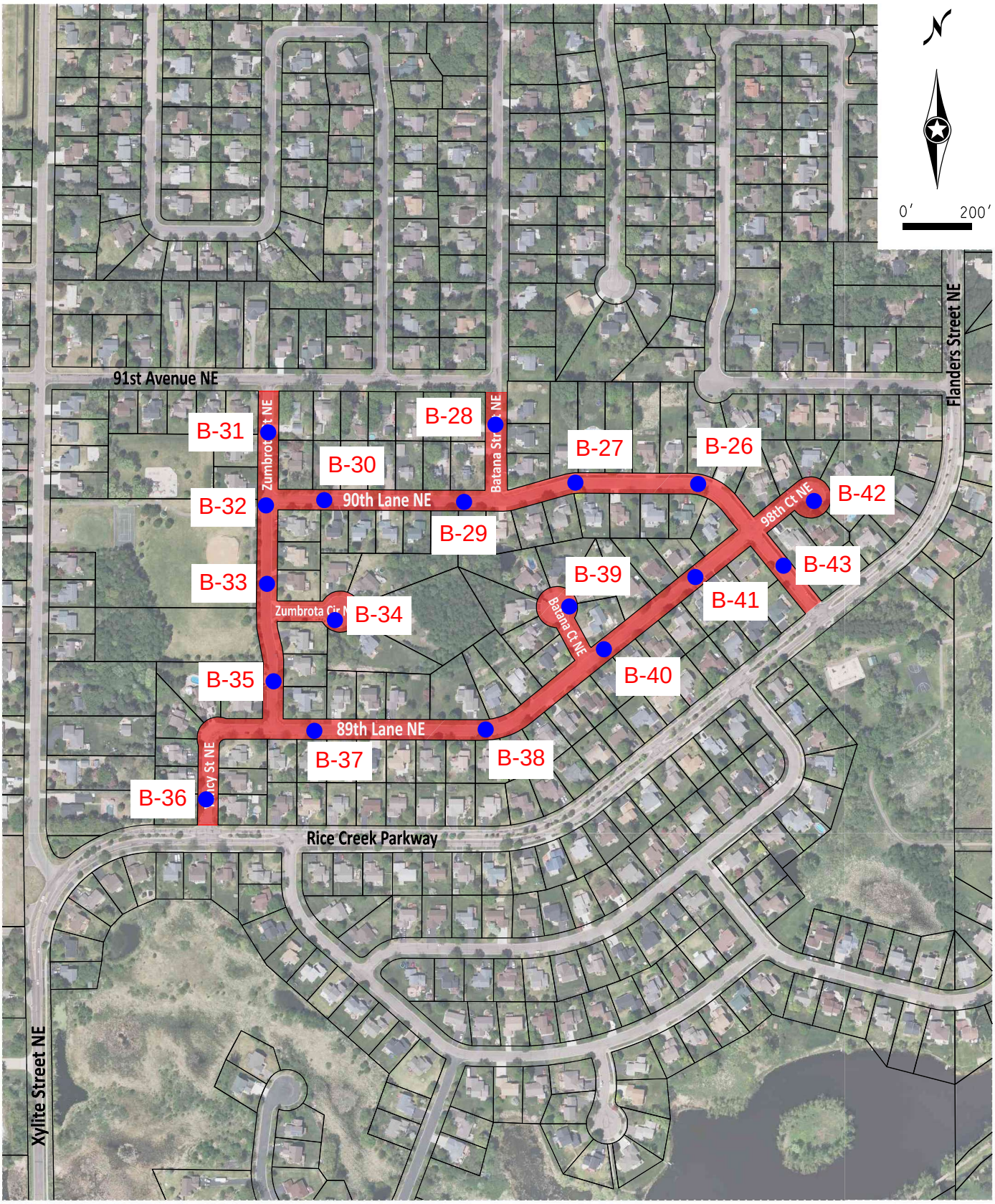
BlaineMN.gov

2023 Southeast Area Street Reconstruction Project

City of Blaine, Minnesota

Figure 1

Date Printed: 7/28/2022
WSB Filename: H:\Blaine Maps\Blaine 2023 Street Reconstruction-3.dgn



2023 Southeast Area Street Reconstruction Project

City of Blaine, Minnesota

Figure 3

Date Printed: 7/27/2022
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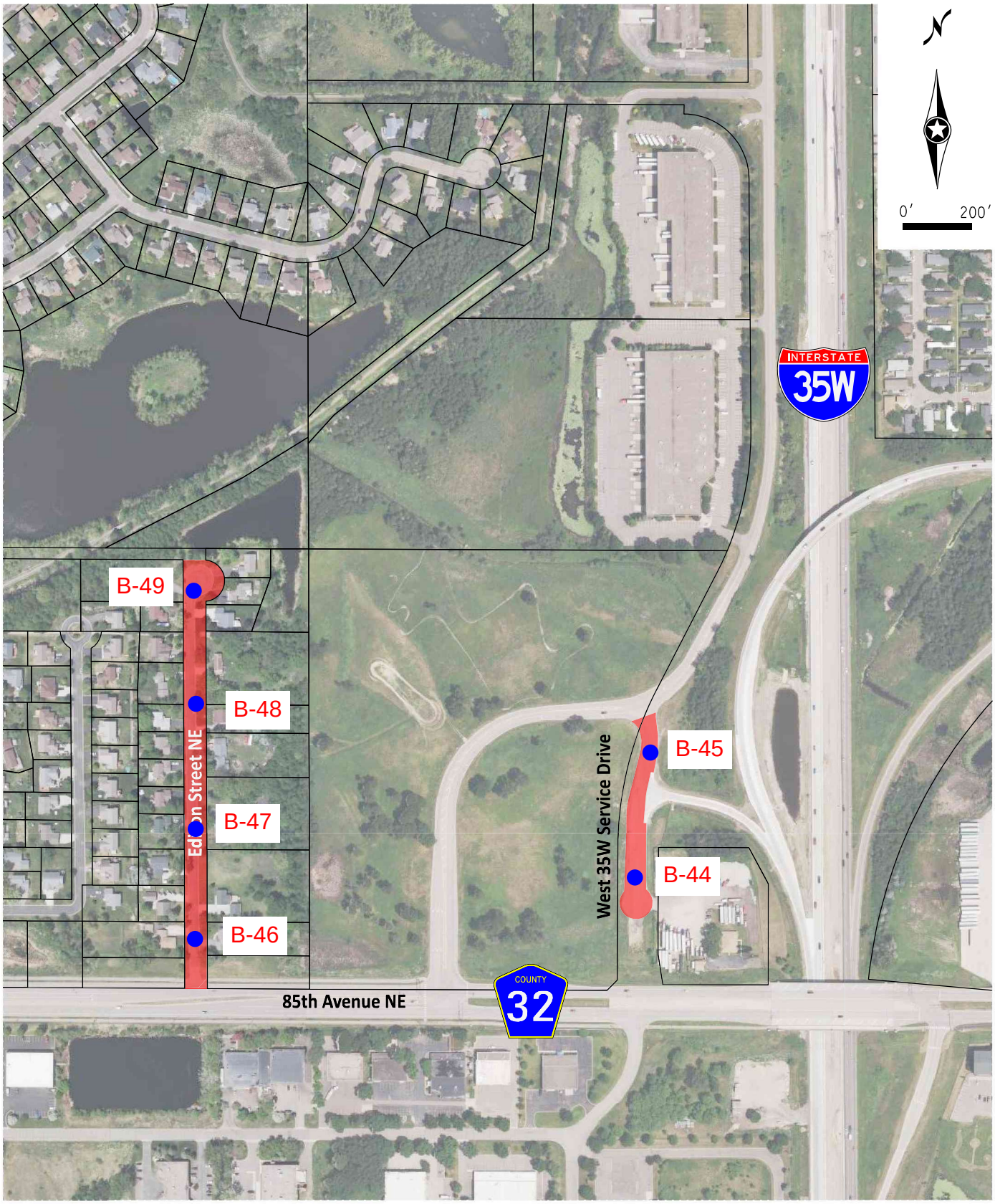


BlaineMN.gov

2023 Southeast Area Street Reconstruction Project

City of Blaine, Minnesota

Figure 2

Summary of Field Exploration:

The forty-nine (49) cores obtained is this area had bituminous depths ranging from 2.5 inches to 5 inches, with a wear or top lift ranging from 1 inch to 2 inches, and a base layer ranging from 1.25 inches to 2.5 inches. The 35W Service Road Cores (Locations B-44 and B-45 were 5" with multiple layers of pavement noted. The condition of the cores obtained were classified for each apparent lift of asphalt, and all cores and lifts were classified as a range from poor to good condition with poor cores showing raveling and cracking throughout the cores. The majority of the cores fell in the fair condition category with some raveling noted on most cores.

The aggregate base appeared to be sand with gravel, brown in color, and ranged in depths from 3 inches to 8 inches. Some locations were noted to have recycled bituminous and concrete in the apparent aggregate base. Refer to field notes for more detail on material at each boring location. Aggregate base samples were combined from multiple boring locations and test results are attached. Test results varied from passing the MnDOT 3138 - Class 5 gradation requirements to failing with too many fines in the aggregate sampled. **MnDOT requirements for Aggregate Base sampling after placing and prior to compaction were not able to be followed, therefore test results could be affected by sampling material through 6" core holes and combining material.

Hand augers were performed to a depth of 24" at each location. The subbase in general was identified as fine-medium grained sand, brown in color.

The Project Area exhibited various amounts of alligator cracking, patching, surface stripping and transverse and longitudinal cracking throughout. Refer to field notes for more detailed distresses for each sample location.

Our Field Data is further detailed in **Table 1** and **Table 2.**

Table 1: Existing Pavement Observations

Core ID	Location	Number of Lanes	Lane Width (ft)	Functional Classification	Curb and Gutter	Surface Distresses	Drainage Condition
1	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Fair, some low spots around manhole
2	Cord St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
3	Cord St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking, Patching	Good
4	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
5	Austin St NE	2	13	Residential Street	Yes	Transverse and Longitudinal Cracking, Patching	Good
6	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
7	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block, and Alligator Cracking, Patching	Good
8	99th Ave NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
9	99th Ave NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
10	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good

Core ID	Location	Number of Lanes	Lane Width (ft)	Functional Classification	Curb and Gutter	Surface Distresses	Drainage Condition
11	98th Lane NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
12	98th Lane NE	2	13	Residential Street	Yes	Transverse and Longitudinal Cracking	Good
13	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block, and Alligator Cracking	Good
14	98th Ave NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block, and Alligator Cracking	Good
15	98th Ave NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block, and Alligator Cracking	Good
16	Cord St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block, and Some Alligator Cracking	Good
17	Cord St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
18	99th Ave NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
19	97th Lane NE	2	13	Residential Street	Yes	Transverse and Longitudinal Cracking	Good
20	97th Lane NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good

Core ID	Location	Number of Lanes	Lane Width (ft)	Functional Classification	Curb and Gutter	Surface Distresses	Drainage Condition
21	97th Lane NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking	Good
22	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking	Good
23	Austin St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking	Good
24	Edgewood	2	13	Residential Street	Yes	Transverse, Longitudinal, and Block Cracking	Good
25	Edgewood	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking	Good
26	90th Lane NE	2	13	Residential Street	Yes	Some Transverse Cracking, Patched Areas	Good
27	90th Lane NE	2	13	Residential Street	Yes	Minimal Alligator Cracking and Surface Stripping	Good
28	Bataan St N E	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking	Good
29	90th Lane NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking, Patched Areas	Good
30	90th Lane NE	2	13	Residential Street	Yes	Minimal Alligator Cracking and Surface Stripping, Patched Areas	Good

Core ID	Location	Number of Lanes	Lane Width (ft)	Functional Classification	Curb and Gutter	Surface Distresses	Drainage Condition
31	Zumbrota St NE	2	13	Residential Street	Yes	Surface Stripping, Minimal Alligator Cracking	Good
32	Zumbrota St NE	2	13	Residential Street	Yes	Surface Stripping, Minimal Alligator Cracking, Patched Areas	Good
33	Zumbrota St NE	2	13	Residential Street	Yes	Transverse and Longitudinal Cracking, Patched Areas	Good
34	Zumbrota Cir NE	2	13	Residential Street	Yes	Transverse Cracking, Patched Areas	Good
35	Zumbrota St NE	2	13	Residential Street	Yes	Transverse and Longitudinal Cracking	Good
36	Yancy St NE	2	13	Residential Street	Yes	Transverse, Longitudinal, Block and Alligator Cracking	Fair, Some low spots along edges
37	89th Lane NE	2	13	Residential Street	Yes	Surface Stripping, Alligator Cracking	Fair, Curb line higher than roadway at storm sewer drain
38	89th Lane NE	2	13	Residential Street	Yes	Surface Stripping, Minimal Alligator Cracking	Good
39	Bataan Ct NE	2	13	Residential Street	Yes	Transverse and Alligator Cracking	Good
40	89th Lane NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Alligator Cracking	Good

Core ID	Location	Number of Lanes	Lane Width (ft)	Functional Classification	Curb and Gutter	Surface Distresses	Drainage Condition
41	89th Lane NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Alligator Cracking	Good
42	98th Ct NE	2	13	Residential Street	Yes	Transverse, Longitudinal, and Minimal Alligator Cracking	Good
43	90th Lane NE	2	13	Residential Street	Yes	Surface Stripping, Some Alligator Cracking, Patched Areas	Good
44	W 35W Service Dr	4	12	Commercial Street	No	Surface Stripping, Alligator Cracking, Patched Areas	Good
45	W 35W Service Dr	4	12	Commercial Street	No	Surface Stripping, Alligator Cracking, Patched Areas	Good
46	Edison St NE	2	13	Residential Street	Yes	Transverse and Longitudinal Cracking	Good
47	Edison St NE	2	13	Residential Street	Yes	Transverse Cracking, Surface Stripping	Good
48	Edison St NE	2	13	Residential Street	Yes	Transverse Cracking, Some Longitudinal Cracking, Surface Stripping	Good
49	Edison St NE	2	13	Residential Street	Yes	Surface Stripping, Transverse Cracking	Good

Table 2: Existing Pavement Section Details

Core ID	Location	Bituminous Depth (in)	Lift Thickness (in) and Condition	Hand Auger Findings from 0-2'
1	Austin St NE	3.25	1" Wear, Fair, Some Raveling	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
2	Cord St NE	4.00	2" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-15" Sand Fine to Medium Grained, Brown 15-24", Sand Fine to Medium Grained, Light Brown
3	Cord St NE	3.00	1.25" Wear, Good	0-5", Sand with Gravel, Brown 5-15" Sand Fine to Medium Grained, Brown 15-24", Sand Fine to Medium Grained, Light Brown
4	Austin St NE	3.50	1.5" Wear, Good	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
5	Austin St NE	3.75	2" Wear, Good	0-6", Sand with Gravel, Brown 6-24" Sand Fine to Medium Grained, Brown
6	Austin St NE	2.75	1.5" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
7	Austin St NE	3.50	1.75" Wear, Good	0-4.5", Sand with Gravel, Brown 4.5-24" Sand Fine to Medium Grained, Brown
8	99th Ave NE	3.25	1.5" Wear, Good	0-5", Sand with Gravel, Brown 5-11" Sand Fine to Medium Grained, Brown 11-24", Sand Fine to Medium Grained, Light Brown
9	99th Ave NE	3.75	1.5" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
10	Austin St NE	3.25	1.5" Wear, Good	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown

Core ID	Location	Bituminous Depth (in)	Lift Thickness (in) and Condition	Hand Auger Findings from 0-2'
11	98th Lane NE	3.00	1" Wear, Fair, Some Raveling	0-3", Sand with Gravel, Brown 3-24" Sand Fine to Medium Grained, Brown
12	98th Lane NE	3.25	1.25" Wear, Good	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
13	Austin St NE	3.00	1.25" Wear, Fair, Some Raveling	0-6", Sand with Gravel, Brown 6-24" Sand Fine to Medium Grained, Brown
14	98th Ave NE	3.50	1.5" Wear, Good	0-6", Sand with Gravel, Brown 6-24" Sand Fine to Medium Grained, Brown
15	98th Ave NE	3.50	1.5" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
16	Cord St NE	4.00	1.5" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
17	Cord St NE	3.00	1.25" Wear, Fair, Some Raveling	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
18	99th Ave NE	3.75	1.75" Wear, Good	0-3.5", Sand with Gravel, Brown 3.5-24" Sand Fine to Medium Grained, Brown
19	97th Lane NE	3.75	1.75" Wear, Good	0-7", Sand with Gravel, Brown 7-24" Sand Fine to Medium Grained, Brown
20	97th Lane NE	3.00	1.25" Wear, Good	0-5.5", Sand with Gravel, Brown 5.5-11" Sand Fine to Medium Grained, Brown 11-24", Sand Fine to Medium Grained, Light Brown

Core ID	Location	Bituminous Depth (in)	Lift Thickness (in) and Condition	Hand Auger Findings from 0-2'
21	97th Lane NE	3.75	1.5" Wear, Fair, Some Raveling	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
22	Austin St NE	3.75	1.5" Wear, Good	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
23	Austin St NE	3.50	1.5" Wear, Good	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
24	Edgewood	3.75	1.5" Wear, Fair, Some Raveling	0-3.5", Sand with Gravel, Brown 3.5-24" Sand Fine to Medium Grained, Brown
25	Edgewood	2.75	1" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
26	90th Lane NE	3.25	1.25" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
27	90th Lane NE	2.50	1" Wear, Fair, Some Raveling	0-4.5", Sand with Gravel, Brown 4.5-24" Sand Fine to Medium Grained, Brown
28	Bataan St N E	2.50	1" Wear, Fair, Some Raveling	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
29	90th Lane NE	3.00	1" Wear, Fair, Some Raveling	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
30	90th Lane NE	3.50	1.5" Wear, Good	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown

Core ID	Location	Bituminous Depth (in)	Lift Thickness (in) and Condition	Hand Auger Findings from 0-2'
31	Zumbrota St NE	2.50	1" Wear, Fair, Some Raveling	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
32	Zumbrota St NE	3.25	1.5" Wear, Good	0-3", Sand with Gravel, Brown 3-24" Sand Fine to Medium Grained, Brown
33	Zumbrota St NE	3.50	2" Wear, Good	0-4", Sand with Gravel, Brown 4-24" Sand Fine to Medium Grained, Brown
34	Zumbrota Cir NE	4.00	1.5" Wear, Good	0-6", Sand with Gravel, Brown 6-24" Sand Fine to Medium Grained, Brown
35	Zumbrota St NE	3.25	1.5" Wear, Good	0-5", Sand with Gravel, Brown 5-24" Sand Fine to Medium Grained, Brown
36	Yancy St NE	4.50	2" Wear, Fair, Some Raveling	0-4", Sand with Gravel and Recycled Concrete, Brown 4-24" Sand Fine to Medium Grained, Brown
37	89th Lane NE	3.00	1" Wear, Good	0-4", Sand with Gravel and Recycled Concrete, Brown 4-24" Sand Fine to Medium Grained, Brown
38	89th Lane NE	3.50	1" Wear, Poor, Raveling Throughout and Lifts Separated	0-3", Sand with Gravel and Recycled Concrete, Brown 3-24" Sand Fine to Medium Grained, Brown
39	Bataan Ct NE	3.00	1" Wear, Good	0-4", Sand with Gravel and Recycled Concrete, Brown 4-24" Sand Fine to Medium Grained, Brown
40	89th Lane NE	3.50	1.5" Wear, Fair, Some Raveling	0-3.5", Sand with Gravel and Recycled Concrete, Brown 3.5-24" Sand Fine to Medium Grained, Brown

Core ID	Location	Bituminous Depth (in)	Lift Thickness (in) and Condition	Hand Auger Findings from 0-2'
41	89th Lane NE	3.50	1.25" Wear, Fair, Some Raveling	0-4", Sand with Gravel and Recycled Concrete, Brown 4-24" Sand Fine to Medium Grained, Brown
42	98th Ct NE	3.00	1.5" Wear, Fair, Some Raveling	0-8", Sand with Gravel, Reddish Brown 8-24" Sand Fine to Medium Grained, Brown
43	90th Lane NE	3.25	1.25" Wear, Fair, Some Raveling	0-4.5", Sand with Gravel, Reddish Brown 4.5-11" Sand Fine to Medium Grained, Brown 11-24", Sand Fine to Medium Grained, Dark Brown
44	W 35W Serfice Dr	5.00	1" Wear, Fair, Some Raveling	0-11" Recycled Bituminous (FDR Material) 11-24", Sand, Trace Gravel, Brown
45	W 35W Serfice Dr	5.00	1.5" Wear, Poor, Raveling Throughout Core and falling apart between lifts	0-5", Recycled Bituminous (FDR Material) 5-11" Sand with Gravel, Brown 11-24", Sand Trace Gravel, Brown
46	Edison St NE	2.50	1" Wear, Fair, Some Raveling	0-4.5", Sand with Gravel and Recycled Bituminous, Brown 4.5-18", Sand with Silt, Dark Brown 18-24" Sand Fine to Medium Brown
47	Edison St NE	3.25	1.5" Wear, Fair, Some Raveling	0-4", Sand with Gravel and Recycled Bituminous, Brown 4-24" Sand Fine to Medium Grained, Brown
48	Edison St NE	3.50	1.75" Wear, Fair, Some Raveling	0-6", Sand with Gravel and Recycled Bituminous, Brown 6-24" Sand Fine to Medium Grained, Brown
49	Edison St NE	4.00	1.5" Wear, Fair, Some Raveling	0-4", Sand with Gravel and Recycled Bituminous, Brown 4-24" Sand Fine to Medium Grained, Brown

Recommendations for Rehabilitation:

Based on the conditions of the existing bituminous and subsurface data gathered by WSB, we are recommending two rehabilitation techniques be considered.

For the residential street areas WSB recommends a full depth pavement removal and replacement. This would entail of the complete removal and disposal of the existing bituminous pavements. The underlying base should be compacted, shaped and test rolled per MnDOT 2211 immediately prior to bituminous paving.

Another option we recommend you consider is specifying a Full Depth Reclamation (FDR) technique be employed. *This option would only be for the W 35W Service Road (Borings 44-45).* This process involves grinding up the full section of existing bituminous and mixing it into the existing underling base material. The resultant product acts as a new aggregate base layer providing direct support for the new bituminous pavement section. Performing an FDR will provide additional strength and uniformity in the aggregate base layer and remove any memory cracking that might have been present in the existing section. Please see the *Key Considerations* section below for further information.

The deciding factor between these possible options may be largely dependent on the price differences at the time of bidding, project timelines and contractor availability. We would expect both options presented will provide a long-term solution with similar maintenance requirements and total life expectancies.

Key Considerations:

The import or export of any excess base aggregates associated with the recommended rehabilitation techniques should be considered. The quantity will be highly dependent on designed profiles and structure limitations such as utility structures and any adjacent curb/gutter or driveway tie in elevations.

Any unstable base soils discovered during the test roll would likely require sub cutting and replacement. Potential costs associated with these corrections should be anticipated.

Pavement Design:

The new bituminous pavement section and mix type should be designed and specified by a Civil Engineer in consideration of the loads, climate, desired life expectancy and other key factors.

Limitations:

The field data presented should be considered approximate and only valid for the location investigated. We have assumed smooth transitions of the similar materials between locations when formulating the recommendations provided.

Our recommendations are based solely on the data obtained through our limited field investigations and our experience with similar reconstructive and rehabilitation work for the locale. We consider local contractor experience and industry costs associated with the various rehabilitation techniques available in conjunction with project specific details.

Appendix:

- Aggregate Base Gradation Test Results
- Photographs of Cores
- Photographs of Existing Surface Condition

Appendix

wsb Forge ahead.

540 Gateway Boulevard | Suite 100 | Burnsville, MN 55337 | (952) 737-4660

Material Test Report

Report No: MAT:22-4306-S01
Issue No: 1

Client: City of Blaine **CC:**

Project: 2023 Southeast Area Street Reconstruction

Job No: R-021236-000

Date of Issue: 9/29/2022
Reviewed By: Sam Lundquist
Title: Project Manager

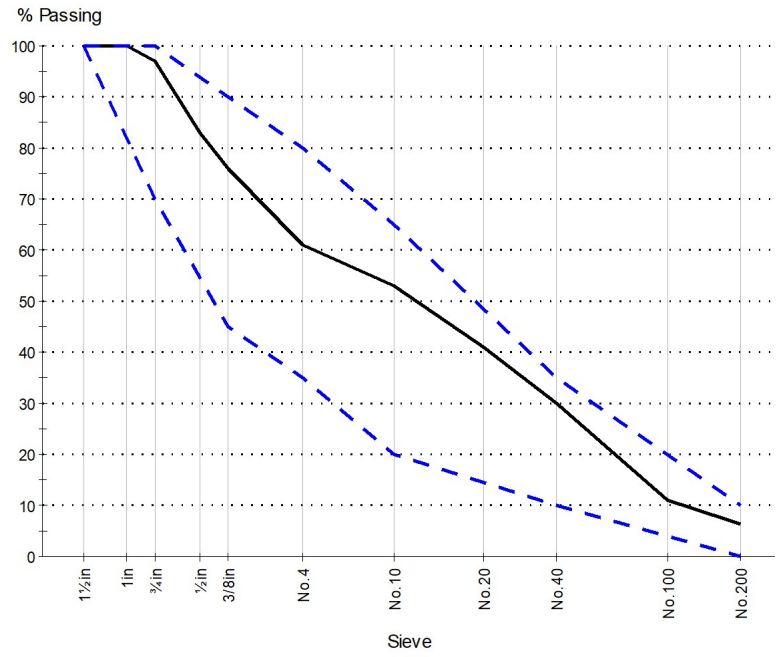
Sample Details

Date Sampled	9/20/2022
Sampled By	Sam Lundquist
Specification	3138.2-4 Class 5 (>25% Recycled, <75% Concrete)
Location	Edison St. NE

Other Test Results

Description	Method	Result	Limits
200/1 Granular Ratio	MnDOT 1202, MnDOT 1203		
40/10 Granular Ratio			
200/10 Granular Ratio			

Particle Size Distribution



Method: MnDOT 1202, MnDOT 1203

Date Tested: 9/22/2022
Tested By: Alex Verzhbicky

Sieve Size	% Passing	Limits
1½in	100	100
1in	100	
¾in	97	70 to 100
½in	83	
3/8in	76	45 to 90
No.4	61	35 to 80
No.10	53	20 to 65
No.20	41	
No.40	30	10 to 35
No.100	11	
No.200	6.2	0.0 to 10.0

Comments

Test results meet the above referenced specifications.

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540 Gateway Boulevard | Suite 100 | Burnsville, MN 55337 | (952) 737-4660

Material Test Report

Report No: MAT:22-4511-S01
Issue No: 1

Client: City of Blaine **CC:**

Project: 2023 - Southeast Area Street Reconstruction

Job No: R-021236-000

Date of Issue: 9/29/2022
Reviewed By: Sam Lundquist
Title: Project Manager

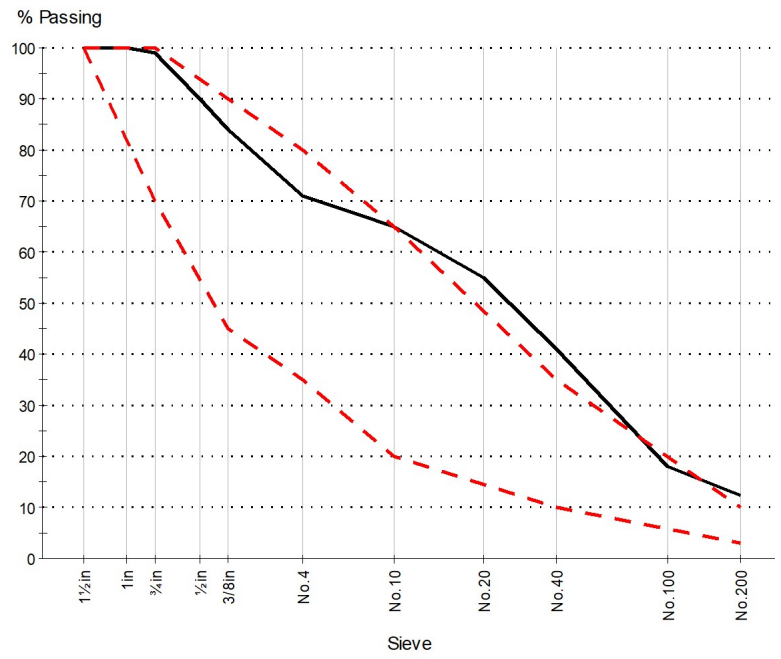
Sample Details

Date Sampled	9/15/2022
Specification	3138.2-3 Class 5 (<25% Recycled)
Location	Austin St NE

Other Test Results

Description	Method	Result	Limits
200/1 Granular Ratio	MnDOT 1202, MnDOT 1203		
40/10 Granular Ratio			
200/10 Granular Ratio			

Particle Size Distribution



Method: MnDOT 1202, MnDOT 1203

Date Tested: 9/16/2022
Tested By: Shane Rasmussen

Sieve Size	% Passing	Limits
1½in	100	100
1in	100	
¾in	99	70 to 100
½in	90	
3/8in	84	45 to 90
No.4	71	35 to 80
No.10	65	20 to 65
No.20	55	
No.40	41	10 to 35
No.100	18	
No.200	12.3	3.0 to 10.0

Comments

Test results do not meet the above referenced specifications.

wsb Forge ahead.

540 Gateway Boulevard | Suite 100 | Burnsville, MN 55337 | (952) 737-4660

Material Test Report

Report No: MAT:22-4511-S02
Issue No: 1

Client: City of Blaine **CC:**

Project: 2023 - Southeast Area Street Reconstruction

Job No: R-021236-000

Date of Issue: 9/29/2022
Reviewed By: Sam Lundquist
Title: Project Manager

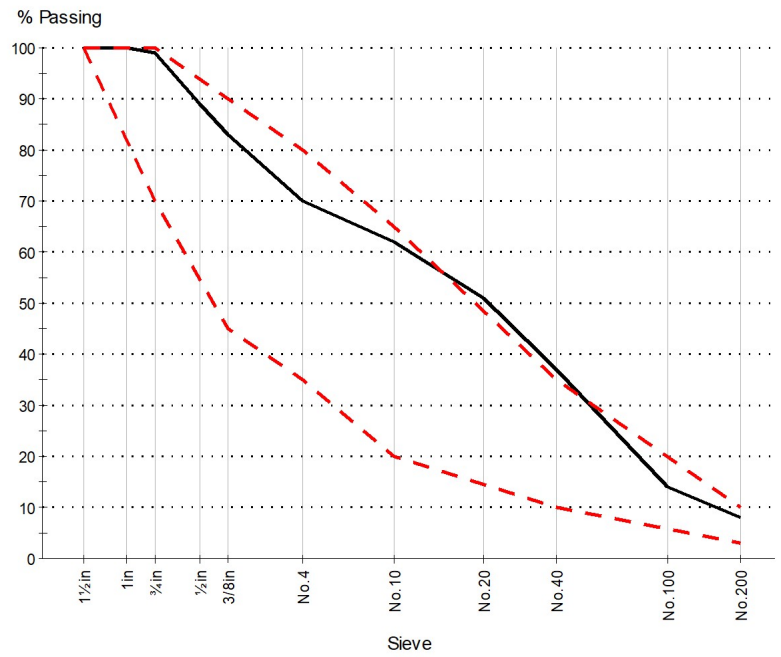
Sample Details

Date Sampled	9/15/2022
Specification	3138.2-3 Class 5 (<25% Recycled)
Location	Borings from 97th Ave, 98th Ave, and 99th Ave

Other Test Results

Description	Method	Result	Limits
200/1 Granular Ratio	MnDOT 1202, MnDOT 1203		
40/10 Granular Ratio			
200/10 Granular Ratio			

Particle Size Distribution



Method: MnDOT 1202, MnDOT 1203

Date Tested: 9/19/2022
Tested By: Shane Rasmussen

Sieve Size	% Passing	Limits
1½in	100	100
1in	100	
¾in	99	70 to 100
½in	89	
3/8in	83	45 to 90
No.4	70	35 to 80
No.10	62	20 to 65
No.20	51	
No.40	37	10 to 35
No.100	14	
No.200	8.0	3.0 to 10.0

Comments

Test results do not meet the above referenced specifications.

wsb Forge ahead.

540 Gateway Boulevard | Suite 100 | Burnsville, MN 55337 | (952) 737-4660

Material Test Report

Report No: MAT:22-4511-S03
Issue No: 1

Client: City of Blaine **CC:**

Project: 2023 - Southeast Area Street Reconstruction

Job No: R-021236-000

Date of Issue: 9/29/2022
Reviewed By: Sam Lundquist
Title: Project Manager

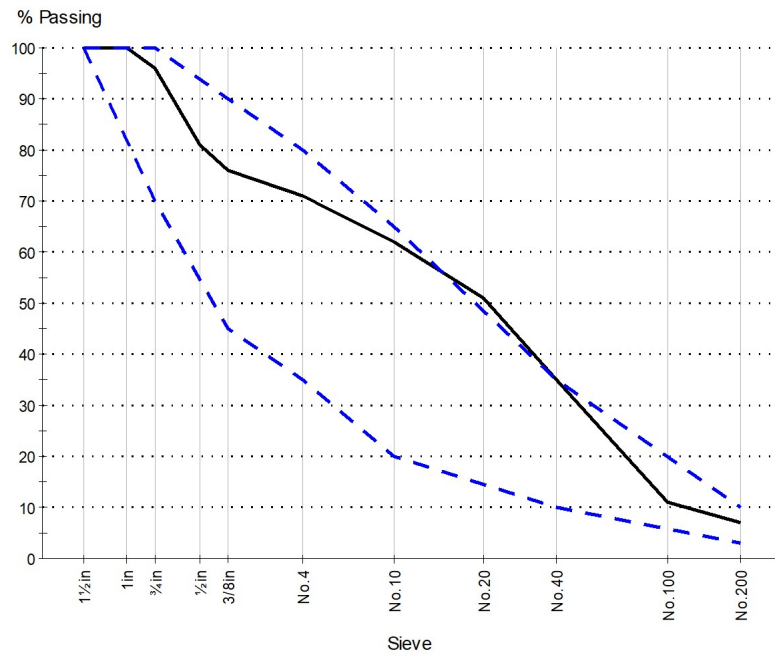
Sample Details

Date Sampled	9/15/2022
Specification	3138.2-3 Class 5 (<25% Recycled)
Location	89th Lane NE

Other Test Results

Description	Method	Result	Limits
200/1 Granular Ratio	MnDOT 1202, MnDOT 1203		
40/10 Granular Ratio			
200/10 Granular Ratio			

Particle Size Distribution



Method: MnDOT 1202, MnDOT 1203

Date Tested: 9/19/2022
Tested By: Shane Rasmussen

Sieve Size	% Passing	Limits
1½in	100	100
1in	100	
¾in	96	70 to 100
½in	81	
3/8in	76	45 to 90
No.4	71	35 to 80
No.10	62	20 to 65
No.20	51	
No.40	35	10 to 35
No.100	11	
No.200	7.0	3.0 to 10.0

Comments

Test results meet the above referenced specifications.

wsb Forge ahead.

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Material Test Report

Report No: MAT:22-4511-S04
Issue No: 1

Client: City of Blaine **CC:**

Project: 2023 - Southeast Area Street Reconstruction

Job No: R-021236-000

Date of Issue: 9/29/2022
Reviewed By: Sam Lundquist
Title: Project Manager

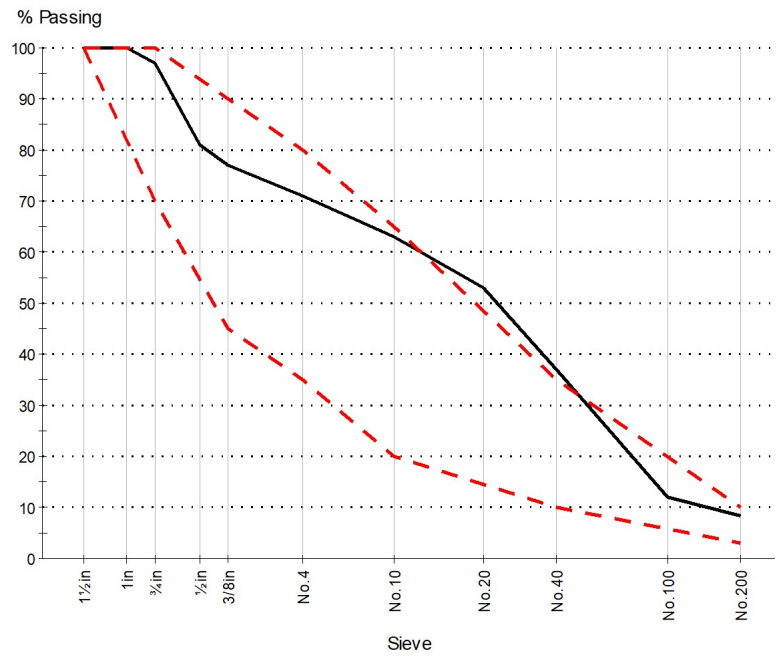
Sample Details

Date Sampled	9/15/2022
Specification	3138.2-3 Class 5 (<25% Recycled)
Location	97th Lane NE

Other Test Results

Description	Method	Result	Limits
200/1 Granular Ratio	MnDOT 1202, MnDOT 1203		
40/10 Granular Ratio			
200/10 Granular Ratio			

Particle Size Distribution



Method: MnDOT 1202, MnDOT 1203

Date Tested: 9/20/2022
Tested By: Shane Rasmussen

Sieve Size	% Passing	Limits
1½in	100	100
1in	100	
¾in	97	70 to 100
½in	81	
3/8in	77	45 to 90
No.4	71	35 to 80
No.10	63	20 to 65
No.20	53	
No.40	37	10 to 35
No.100	12	
No.200	8.2	3.0 to 10.0

Comments

Test results do not meet the above referenced specifications.

Core 1

Core 1

Core 2

Core 2

Core 3

Core 3

Core 4

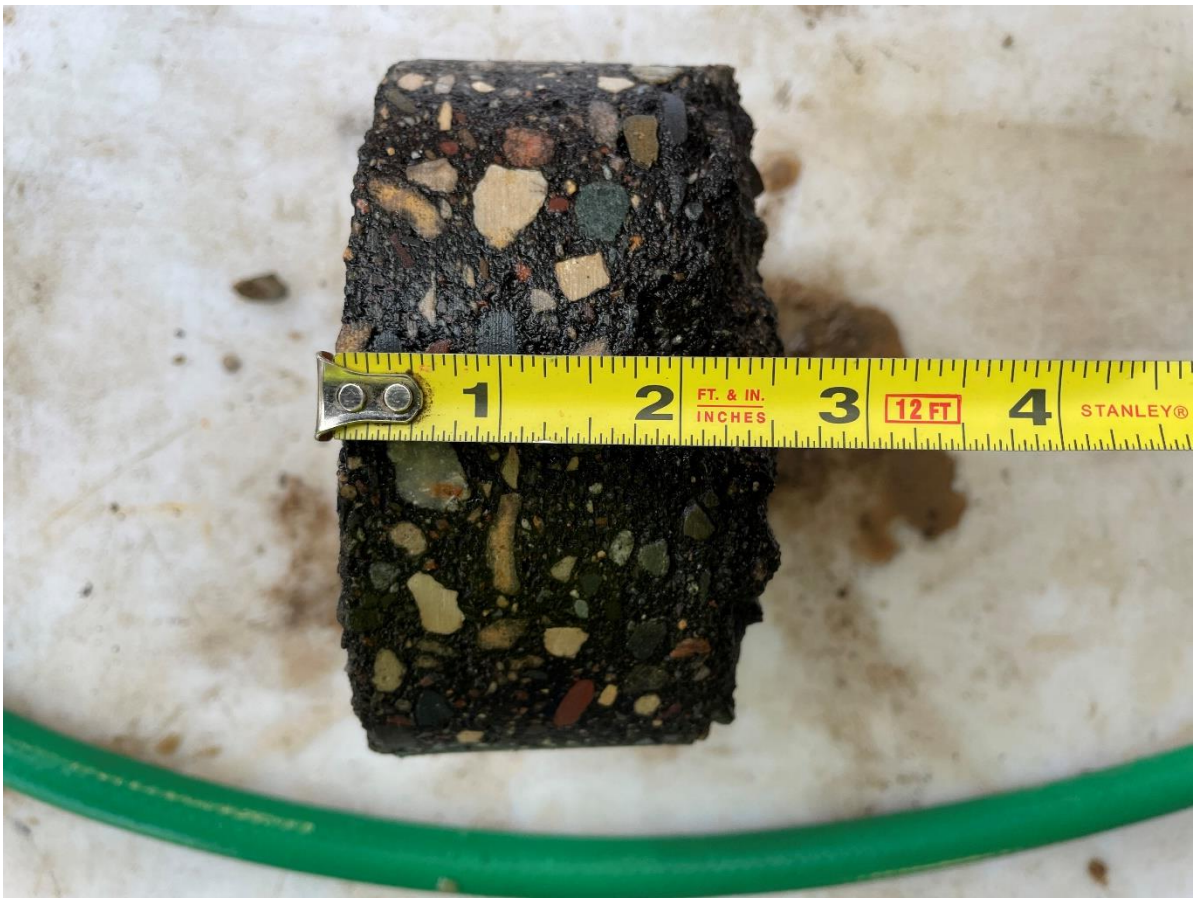
Core 4

Core 5

Core 5

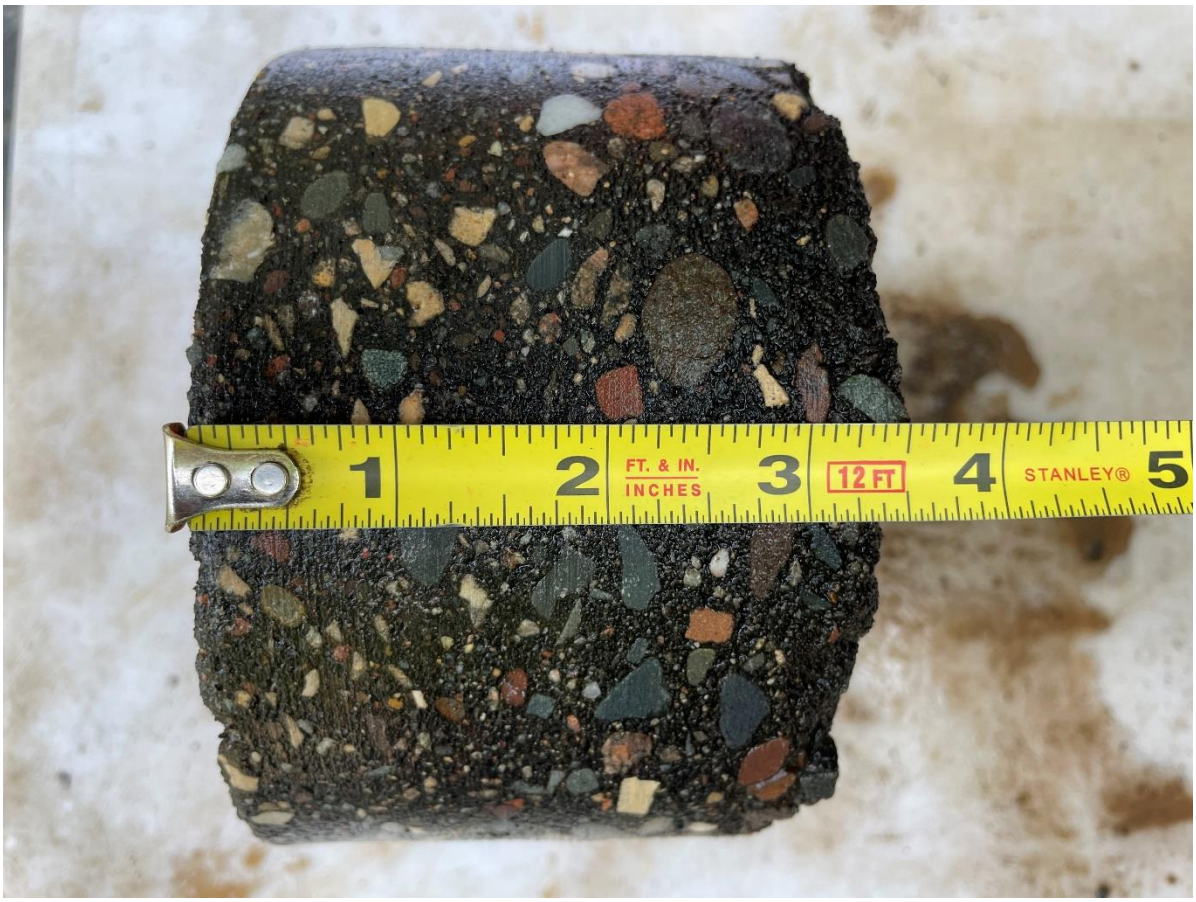
Core 6

Core 6



Core 7

Core 7



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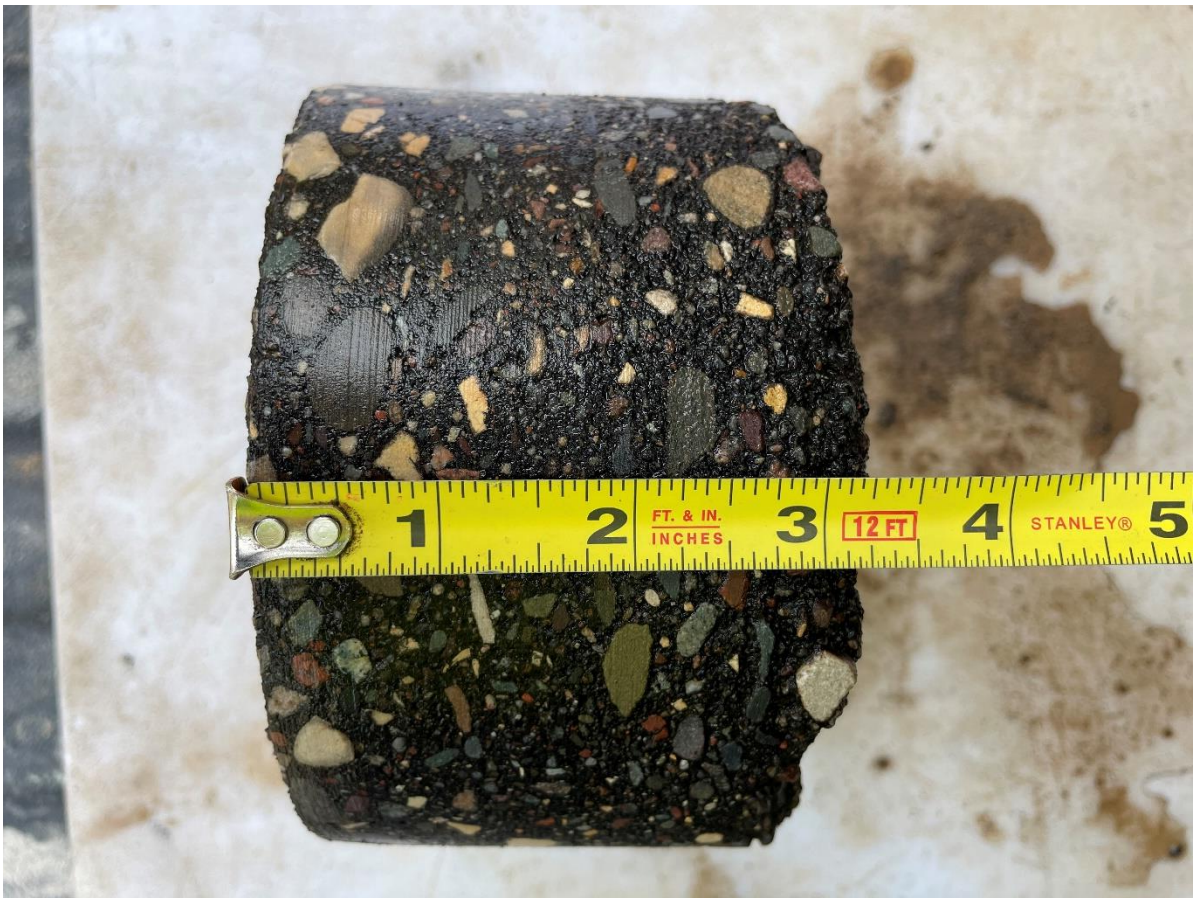

Core 11

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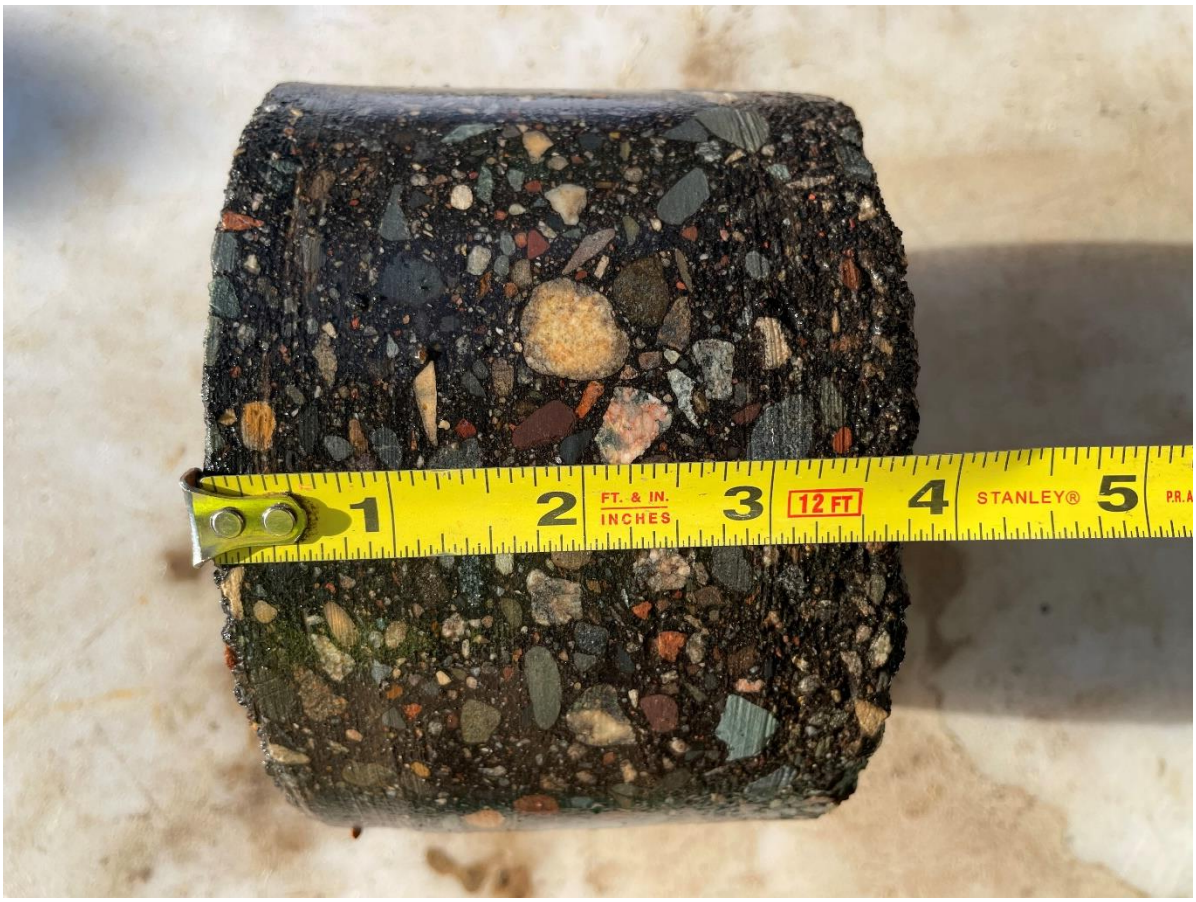

Core 35

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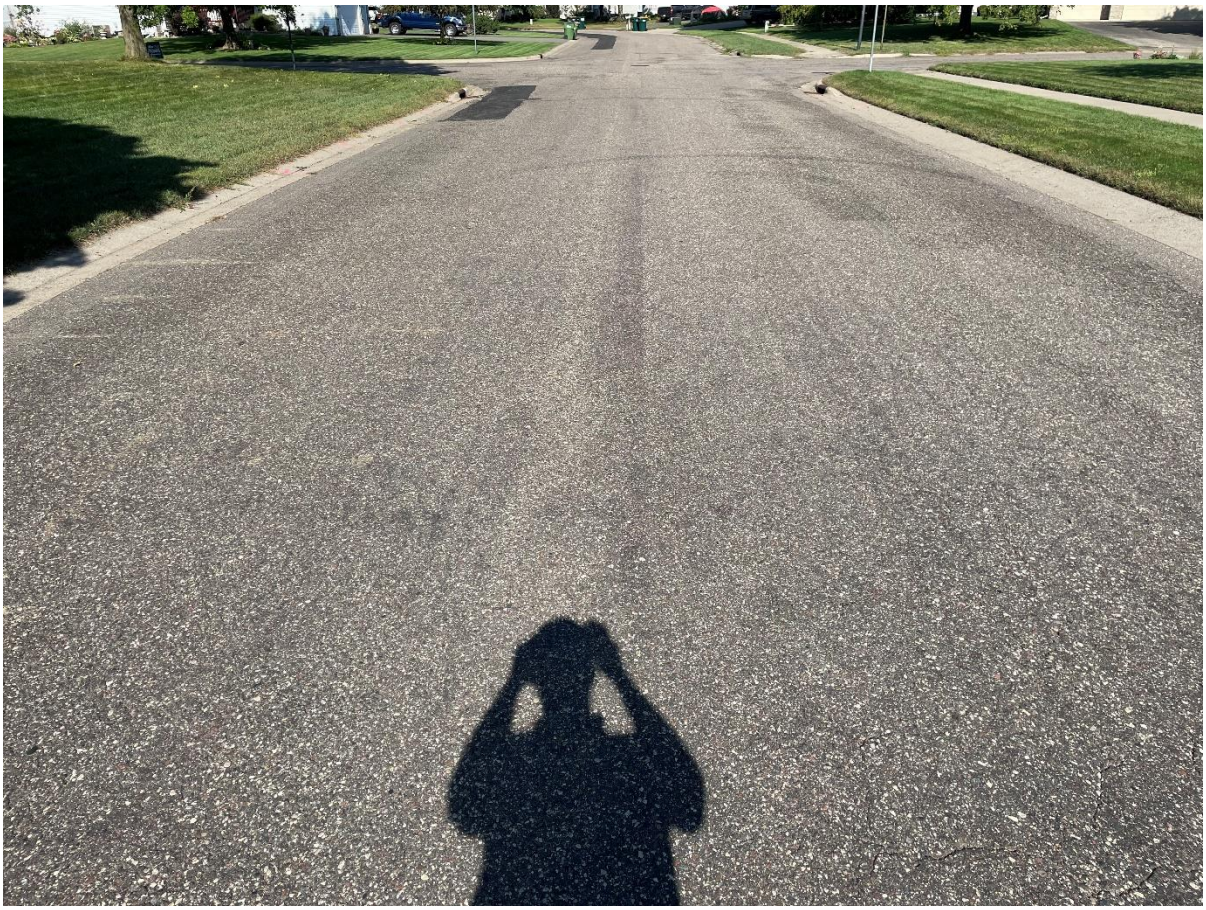
Core 43



Core 43

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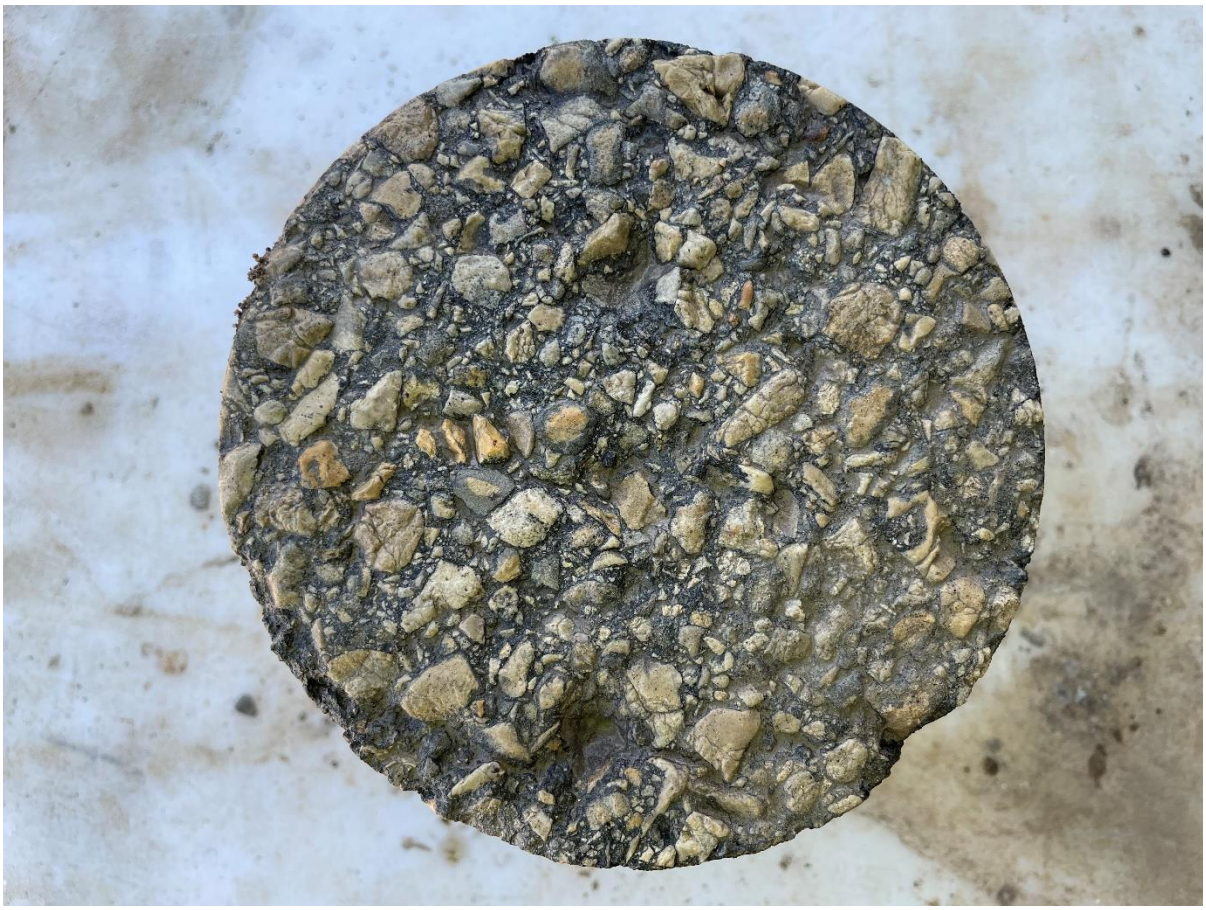

Core 46

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